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EDITORIAL NOTES.

Attention is called to an article in the present number of the JOURNAL by Dr. F. E. Stewart.

PHARMACEUTICAL STANDARDIZATION.

The evils referred to by Dr. Stewart and the method of remedying them as suggested by him have existed for nearly a quarter of a century. The Smithsonian Institution, the Department of Agriculture, the American Medical Association, the American Pharmaceutical Association, and, in fact, every learned body and every professional man of prominence to whom or before whom this matter has been presented, has unreservedly advocated some plan for securing the standardization of chemicals, drugs, pharmaceuticals, and the principal food stuffs; yet nothing has, as yet, been done. The reason why such an excellent project has never reached anything more than the stage of suggestion and approbation, is not far to seek. It is simply lack of organization. A United States Senator, some years ago, when approached on the subject, stated that the medical and pharmaceutical professions could obtain any legislation they really wanted, if they were sure that they wanted it and acted as a concerted whole. Lack of organization has heretofore prevented any action looking toward the remedy of the present evils. It is urged that we have a fixed standard in the Pharmacopœia; true, but the Pharmacopœia is a dose that is elective with the manufacturer, and he almost invariably elects, in a lordly fashion peculiar to his kind, to disregard it. The condition has grown so much worse, within the last few years, that at present the physician who writes a prescription has no certainty that it will be compounded alike by two druggists, using preparations of different manufacturers, and he is being forced to prescribe semi-proprietary mixtures, the actual composition of which he is in ignorance and the valuable and wonderful properties of which are being constantly urged upon him, not by any one with authority to speak, but the manufacturer who can see nothing except the advantage of lauding his mixture and the consequent dollars that may be added to his bank account. No reputable phy-

sician can mention the name of a newly introduced drug or preparation, in a scientific paper read before a medical society or perhaps written for publication, no matter how excellent it may be, without rendering himself liable to the possible false accusation of having been influenced by the manufacturer. No one can go into the open market and buy supposedly pure drugs or chemicals with any assurance that they are chemically pure. The evil is deplorable, but the remedy seems clearly to be presented in the plan suggested by Dr. Stewart and formally approved by the learned societies before which it has been presented. A bureau of standardization, backed and controlled by the medical and pharmaceutical professions of the whole country, of a personnel so far above reproach that its honesty could not be questioned, would very quickly settle the matter. It would compel the manufacturers throughout the country to follow one standard of purity and strength, one formula in the compounding of pharmacopœial preparations, and to supply a line of drugs that could be relied upon to be the same wherever prescribed, north, south, east or west. And such a bureau is not a highly rose-colored dream; it is an actual possibility and can be put upon a self-supporting business basis wherein the man who makes the money pays the bills; where the manufacturer, who makes his money directly through the physician and the pharmacist, may be compelled to manufacture as he should and to pay for the guarantee that his product complies with the accepted standards of purity and formula. An argument directly to the point is furnished in an editorial which appeared in "American Medicine" for November 1, 1902. It quotes the following from a recent number of the Lancet:

Our experience proves that it is becoming almost impossible to admit articles in the columns of the Lancet from the pens of general practitioners and others dealing with the results of their therapeutic investigations into the value of new preparations, because all the favorable passages will at once be pounced upon by the enterprising purveyor, perhaps garbled, almost certainly dissociated from their context, and scattered broadcast over the land. We are thus, perhaps, prevented, and by the very people who would profit by the publicity, from putting before our readers papers the practical value of which may be great. The public, the medical profession, and the purveyors alike suffer. The only way to remedy the position is not a satisfactory one, but it is one to which we must have recourse.

The editorial comment upon this text is as follows:

It is true that there are many new pharmaceutical preparations of value to the profession that should be brought to the notice of medical men by good practitioners in reputable medical journals. But the abuse pointed out by the Lancet is a veritable one. It is worse in our country than in England, due to the absurdly large number of medical journals and the professional puff-writer. It strikes us that the chief sufferer is the manufacturer of good products who will not push them by dishonest methods. It is

true that the honest manufacturer can trust to the profession righting him in time, but some means should be devised to prevent the dishonest from reaping possible immediate benefits. Are conditions reaching such a state that because of the abuses by certain advertisers all mention of proprietary preparations must be interdicted by reputable medical journals? We have known many astute men who say that, owing to the suspicion aroused in the mind of the readers, such mention prevents sales rather than encourages them.

The distressing dilemma in which both the honest manufacturer and the medical editor find themselves, as indicated in the matter just quoted, would be at once relieved if such a bureau were in existence and could stand between the manufacturer on the one hand and the physician and the pharmacist on the other.

The conferences between the New York State Medical Association and the Medical Society of the State of New York, for years antagonistic, have had a happy ending in the recent action taken by both of them toward consolidation. At the next session of the Legislature they are to apply for a charter combining the two under the name of the Medical Society of the State of New York. This is but another milepost passed on the road to general organization of the whole regular profession of the country; when that has been effected the medical profession can get such legislation as it wants. It can then take active steps to do away with the so-called "patent" medicine evil, for the "patent" medicine business is little more than the unrestricted selling of narcotics and alcohol under fanciful names and strange disguises. There cannot be the slightest doubt that thousands and thousands of lives are ruined by habits contracted through the use of these "tonics," "bitters," "soothing syrups," etc., etc., which, as the laws now stand, are permitted free sale in any part of the country. It is within our own personal knowledge that, whereas the sale of liquors, or even such harmless stuff as beer, with its 2 per cent of alcohol, is prohibited amongst the Indians, various "patent" medicines are freely sold—and some of them contain as much as 44 per cent of alcohol. The spirit of medical progress is toward prevention—prophylaxis; yet, as the laws now stand, nothing can be done to touch the majority of these traders in lives. A thoroughly organized medical profession could wield an enormous influence; it could see to it that such men were elected to office as would promptly take action in the matter and force the faker out of business. Unfortunately most of the medical press of the country is muzzled by these very fake manufacturers, who make their money out of human lives destroyed, and many so-called medical journals will undoubtedly at-

tack any action tending to deprive them of the portion of this blood money which reaches through their advertising pages. There are a few reputable journals in the country, however, that are not so tied by the foot, which will stand by the fight till it is won. Let every regular physician of this State see that he is a member of the State Medical Society; then, as a concerted whole, we can demand that protection to the public which is so urgently needed. Join the State Society; get into line and do it at once; don't come tagging along at the end of the procession, or come in on the caboose of the milk train; get in *now*.

The question of marriage and divorce, of clouds obscuring the honeymoon, resulting in the young married couple be-

AN OBVIOUS DUTY BEFORE WEDLOCK.

coming separated, has been taking up considerable space in the daily press of various parts of the country, almost rivaling, in fact, the amount of space devoted to the immorality and sensuality, to say nothing of the inanity of the metropolitan fast set—commonly known as the "four hundred." To the latter question we do not wish to here devote any space; it seems too obvious to demand further attention from any one not connected with the courts or the bar. The discussion on marital infelicity and divorce has called forth an expression of opinion from a number of more or less prominent people, who, with one exception, have written many words and said—nothing. The ingenuity they have displayed in dodging the real question at issue, however, is somewhat amusing. Every one who sees and has sufficient gray matter to think knows, but seldom says so out loud, the real fundamental reason. Why should a bride of a few weeks leave her newly wedded husband and the animal life she has but just discovered, and return to her home? Does not he who asks this question know that the answer is to be found running back into unwritten history? Why does a wife leave her husband to go with some other man, living in unlawful association, enduring shame and disgrace, hardship and suffering, but sticking to the man to whom she has no legal claim? The answer is writ plain for him who can read, and may be found in the first transcript of Semitic folk-lore, as represented in the Old Testament. What is the explanation of that peculiar look, as of a hunted animal, that is so often to be seen in the eyes of a young bride? The young girl goes to her wedding knowing nothing that she should know, while the prospective bridegroom meets her at the altar with a wealth of knowledge and experience that it would be well for her if he did not have. But one writer, and that one a woman, has been brave enough to plainly state the truth. Ella Wheeler Wilcox certainly has the courage of her convictions and the

support of what she knows to be the truth: "The important phases of marriage, sexual relations and maternity are never discussed by the modern young woman of the cultured classes and her mother—only the social and financial features. The average girl of the upper walks of life is, therefore, dwarfed and stunted in her emotional qualities and absolutely ignorant of the masculine nature when she goes to the altar. Meanwhile the man whom she selects for a husband has, as a rule, learned all he knows of feminine emotions and passions from women in other walks in life. * * * He chooses a girl of spotless reputation for a wife, yet he treats her as if she were a Sappho, a Du Barry, or a Phryne. * * * What but chaos can ensue? * * * It is the ridiculously false modesty of parents and their shameful indifference to a subject which is the root of all existence, that make so many marriages failures."

The burden of responsibility is placed, by Mrs. Wilcox, upon the parents; but should not some of it be borne by the family physician? He could, if he would, or if he were permitted, do much, very much, to ameliorate the trouble. The sage advice of one old family doctor to a young man in one of his families who was about to be married, can hardly be improved upon. "My son, remember that seduction is much less criminal than rape." If these questions are to be discussed at all, and there is no good reason why they should not be, then let us have expression that is sufficiently plain. Let both contracting parties to a marriage thoroughly understand their marital and sexual obligations, the one toward the other; and if their parents have not sense nor courage enough to enlighten them, then let the "good old family doctor" step in and tell them what they should know.

The few county medical societies in the State that have not as yet organized under or complied with the provisions of the

AFFILIATION OF THE STATE SOCIETY FOR AFFILIATION COUNTY SOCIETIES. should do so without delay.

It must not be forgotten that under the revision of the constitution and by-laws of the American Medical Association delegates to the House of Delegates of that Association are now elected only by the recognized State medical societies. Formerly any medical society that adopted the Code of Ethics of the American Medical Association was considered in affiliation with that body and could elect delegates to it; now the conditions are altered. Organization is the only path for the regular physicians of the country to tread, and there must be no faltering, no backward tendency, no hesitation, no dragging up of old fights and petty squabbles. Every one must come into the State Society and thus have a voice in the affairs of the National Association. The secretaries of the county soci-

eties must remember that something more than a letter to the Secretary of the State Society stating the fact "that their society is willing to affiliate with the State Society," is required. They must forward a copy of their constitution and by-laws, together with a full list of the officers and members of their respective societies, to the Secretary of the State Society. In almost every case some minor alterations in the constitution and by-laws will have to be made before formal affiliation can be recognized by the State Society, so a certain amount of time is required in order to bring these matters into line. Do not delay; attend to the matter at once and correspond with the Secretary of the State Society, Dr. George H. Evans, 807 Sutter street, San Francisco.

A majority of the electors of this State have placed their interests in the hands of a gentleman than whom no man in the ranks

SCIENTIST TO BE AT THE HELM. shown a greater regard for strict medical ethics. Dr. Pardee has been a member of the State Society for many years and has shown much interest in its meetings and its aims; he has been in close touch with its members and has the respect of all and the love of many. The position in which he will be placed, as Governor of California, will be, to say the least, somewhat trying. On the one hand are large commercial and monetary interests to be safeguarded; and heretofore the policy of negation and concealment, and of absolute inertia in regard to the plague question, has been the policy dictated by California's commercial interests. On the other hand stand the ranks of Dr. Pardee's professional brethren; men of irreproachable character and great scientific ability; men who live and work for but one thing—for scientific truth and honesty; men who are without "their price," whom no consideration could induce to swerve from their plain duty to science, to their professional obligations, and to the welfare of the people at large. And these men, after long and careful study of ample evidence, have unanimously proclaimed that plague exists in San Francisco; that it is a menace to the whole United States; and that the "do nothing and say nothing" policy of concealment is the worst that could be followed under the circumstances. In many cities and States of the country men who have the best interests of the whole United States at heart are asking each other what position Dr. Pardee, as Governor of California, will take toward the plague question. Will he stand firmly for an open avowal of present conditions and a rigorous treatment of them, or will he be influenced by the tricky politician and the bloodless commercial interests to continue in the more than foolish policy of concealment established by that eminent scientist, Governor Gage? Dr. Pardee falls heir, with the Governor-

ship of the State, to a problem requiring great firmness of character, great honesty of purpose, and a clear and resourceful brain for its solution. We have faith in Dr. Pardee's ability and honesty, and that he will succeed in determining upon and thereafter following the right course; but we would urge that an expression of opinion from him, as soon as may be, will be welcomed, not alone by his professional associates here in California, but by every State Board of Health in the country.

There are two equally important points from which the residents of the Pacific Coast States view the plague question. One **COMMERCIAL** vs is purely commercial and the **PROFESSIONAL**. other largely professional. The contention of the business man is that public utterances regarding the presence of the disease should be discouraged and prevented, if possible. They reason according to the old saying, that the truth should not be told at all times. They see only possible danger to the trade of the Coast, and decline to look into the future or take a serious view of what might one day develop into a national calamity. They seem to rest content with daily newspaper accounts and opinions—from laymen—in many instances fallacious, in others imaginary. One statement going the rounds is to the effect that the disease is known to have existed in various places on this Coast for twenty or thirty years without causing alarm or occasioning comment. Another is to the effect that our climate is not favorable to the existence of the disease, and that it cannot, therefore, become epidemic.

The physician, on the other hand, does not agree with the commercial man in his insistence that the subject be tabooed, for the medical profession regards the subject as of such vital importance to the whole country that it should be thoroughly investigated and given all the publicity possible. If there is danger of the plague spreading, it becomes the duty of medical men to warn the public and to do all in their power to stamp out the disease upon its first appearance, and not wait until it obtains a foothold and becomes too strong to cope with.

The JOURNAL disclaims any intention to belittle the importance of the commercial interests of this Coast. Physicians, as well as other residents, are vitally concerned in maintaining the prosperity with which this section of the country is blessed, but it is the plain duty of the profession to give timely warning of danger and to advocate stringent measures against the introduction of infectious diseases. A menace confronts us in the Oriental trade now as never before, for that trade is growing to enormous proportions. San Francisco is, of course, the most important, but it is not the only port on the Coast through which disease-impregnated commodities might be introduced into the country.

County Medical Societies in organizing, or in applying for affiliation, must remember that the Constitution and By-Laws of the **ORGANIZATION** State Society provide that only **IN COUNTIES.** regular physicians in good standing may be members of the County Society. In some local and county societies physicians "practicing non-sectarian medicine" are admitted as members, the source of the diploma under which they are licensed to practice not being regarded as the evidence of the school of medicine which they are supposed to practice.

On this point opinions differ. There are many men holding Homœopathic or Eclectic diplomas who really practice medicine as do those who hold regular diplomas, and they, presumably, may be regarded as "practicing non-sectarian medicine." The time may, and probably will come, when this clause will take the place of "regular" in the American Medical Association and affiliated State Societies. At present, however, this is not the case; only regular physicians are eligible for membership in the State Society. At the meeting of the State Society, when the reorganization plan was adopted, this question was discussed at some length, the final determination being that "regular" should stand. For this reason—that no one not a regular practitioner should be admitted to the State Society—a full list of the members and officers of the County Society must be sent to the Secretary, together with the Constitution and By-Laws, at the time of applying for affiliation.

Professor Lorenz, of Vienna, has been here and has gone. Fortunately the State Board of Medical Examiners was wise enough not to put any obstruction in the way of his operating in this State. "Fortunately," for the reason that he was given an opportunity to perform this operation upon a number of patients, and a former assistant of his, and a gentleman who thoroughly understands the Lorenz method and the manner of changing the plaster dressings advocated by Lorenz, is located in this city and can redress the patients as occasion requires, so that the results may be fairly judged. In a certain number of selected cases the Lorenz operation is undeniably good; but whether it is adapted to the majority of cases is very much of a question. The patients he has operated upon here in California will, in a few months, offer very valuable testimony upon this question.

Two issues of the JOURNAL have been sent to a number of physicians who are not members of the State Society, in order to bring to their attention the importance of affiliation with the State Society and to furnish them with sample copies of this publication. The JOURNAL will be sent regularly to members of the State Society. To others, the subscription price is \$3 a year.

NECESSITY OF STANDARDIZING MATERIA MEDICA PRODUCTS.

By F. E. STEWART, M. D., PH. G.

IT GOES without saying that there can be no uniformity in therapeutic effects of materia medica products which essentially differ from each other in character, quality and strength. The necessity for authoritative standards with which to measure the brands of manufacturers is, therefore, generally recognized, and every civilized country has its pharmacopœia devised for that purpose.

The United States Pharmacopœia was originally devised, and is decennially revised, by a committee appointed by a congress of physicians and pharmacists representing all parts of the nation. This committee is made up of the very best men in the departments of work comprising the field of the pharmacopœia. It is therefore safe to assume that the United States Pharmacopœia is a far better standard than that set up by any individual or firm.

The pharmacopœias of all countries except the United States, Chile, Mexico, and Greece, are issued under the authority of the respective governments, and therefore partake of the nature of national laws. In this country conformity with pharmacopœial standards is purely a question of choice. The natural consequence is that the market is flooded with pharmaceutical preparations under pharmacopœial names which differ so essentially in character that they will not even mix with each other, although supposedly identical. Unauthorized preparations, of secret or semi-secret composition, abound, and are extensively advertised to the medical profession, and also to the people, as marvelous therapeutic discoveries, only to fall into merited oblivion after a short popularity, because lacking in virtue as remedial agents.

There is only one remedy for this deplorable state of affairs, and that is standardization of materia medica products to conform to common standards fixed by authority. Every new materia medica product on the market should be given a name under which all pharmacists should be free to make and sell it. Tests for its identity should be determined, and standards for its character, quality and strength established. Products appearing on the market under the names decided upon should correspond with these standards, or be considered fraudulent. This plan would free the products from commercial control and enable physicians to discuss their merits unreservedly in the medical societies without fear of reprisal from the manufacturers in cases of adverse expression regarding their therapeutic merits. Medical editors would then be in a po-

sition to act in a judicial manner in relation to new products without the risk of losing advertising patronage. There can be no free discussion, or free press, under a system of espionage and retaliation established by commerce in its relations with materia medica products.

It will doubtless be said by many that these assertions are self-evident and need no defense. But this does not alter the fact that the condition of the market is most unsatisfactory so far as materia medica products are concerned.

A few illustrations which have come under my personal observation will show the necessity of taking some action looking toward a better state of affairs. Some public institutions are supplied with medicine by advertising for bids and accepting the goods offered by the lowest bidder. Unless pharmacopœial standards are specified, preparations are sometimes offered, and accepted, which fall below pharmacopœial requirements. One of the leading officials in a department of the government told me that he once protested against a preparation because it was not up to the standard of the pharmacopœia, only to be impudently informed that pharmacopœial products were not specified and no manufacturer thought of offering pharmacopœial products unless specified. I have it from good authority that hospitals are sometimes supplied with half-strength fluid extracts, and pills containing less of the active ingredients than the pharmacopœia calls for. The excuse is that so long as conformity to pharmacopœial standards is a matter of choice, manufacturers who choose to ignore the pharmacopœia, and adopt a standard of their own, have a perfect right to do so.

The pharmacopœia defines fluid extracts to be preparations made by extracting the active principles from drugs by a certain process, using specified solvents of definite strength, carefully selected by the pharmacopœial committee for the purpose, and made of such strength that 100 c.c. of the finished product shall contain in each case the active principles of 100 gm. of the drug. Prepared in this way the fluid extract of any given drug will mix with the make of all other manufacturers using the pharmacopœial process, without precipitation; and, barring the inequality of the various samples of the same drug, will be uniform in therapeutic effect, no matter by whom manufactured.

But I venture to say that there are very nearly as many processes for the manufacture of fluid extracts as there are manufacturing houses, each claiming that its method of preparation is the

best. Consequently there are different standards of character and differences of opinion between physicians regarding the merits of different brands of products on the market. This forces the druggists to carry a number of brands in stock to meet the demands of the profession, and thus lock up their capital by useless duplication—useless because all brands should conform to common standards. One druggist with whom I am acquainted, is forced to carry no less than twelve brands of a certain product in stock. His place of business is Los Angeles, California, where there is a very wide range of demand, owing to the presence of tourists from all parts of the country.

Pharmacists frequently complain that prescriptions are brought to them for renewal by persons from some other part of the country, which, after they have been compounded, differ so materially from the medicine furnished before as to cause great dissatisfaction on the part of the patient. Naturally the blame is placed upon the pharmacist, whose reputation correspondingly suffers. This could not occur if pharmacopœial standards were properly observed all over the country.

A very amusing incident occurred in New York City not long ago. I got the story from both physician and pharmacist in the case, and so heard both sides of the story. The incident I am about to relate will illustrate the necessity of standardization in connection with the *materia medica* product in question. I refer to hexamethyl-tetramine. It is offered on the market under several names, as *formin*, *cystogen*, *urotropin*, etc., by different chemical houses, and a great many physicians and pharmacists do not know that these names mean the same thing.

In the case referred to the article was prescribed under its proper chemical name, and the pharmacist to whom the prescription was taken sent all over the city to purchase an ounce of it, but no wholesale house or manufacturer had ever heard of it. At last the pharmacist telephoned to the doctor, who, being interrupted at the breakfast table, informed the knight of the pestle that he did not know his business. After some further uncomplimentary remarks on both sides, the fact developed that the pharmacist had three ounces of the product in stock, under three different names, and did not recognize it under its chemical name. As the doctor was indifferent as to the brand dispensed, the incident closed without further trouble.

A question arises in this connection: Would the pharmacist have been justified in dispensing *formin* or *urotropin*, if *cystogen* had been prescribed? In other words, is it the intent of the prescriber when he writes for *cystogen*, *formin* or *urotropin* to specify any special brand of hexamethyl-tetramine? Or is the physician a victim of his own ignorance? Has the pharmacist

the right to dispense hexamethyl-tetramine, no matter under which of the several synonyms it is prescribed? If so, does the same rule apply to *antikamnia*, *listerine*, et al? Whatever the reason, it is a fact that the pharmacists of this country are becoming very restive over a state of affairs which forces them to carry half a dozen or more brands of products in stock. There are probably eight or ten brands of many such preparations. Why not establish standards for them by placing preparations of definite formulas in the pharmacopœia and provide them with names conformable with the nomenclature of science? Then the pharmacist would have the opportunity of purchasing any brand he found to correspond with the standard, or supply his own brand if he desired to do so.

Of course the answer from the manufacturer will be that the druggist cannot be trusted to select the best brand on the market; neither is he provided with facilities in the way of selecting material and manufacturing to compete with the first introducer of a new pharmaceutical preparation, who makes it a specialty and takes great care to supply a superior article. There is much truth in the manufacturers' contention. Pharmacists, in many instances, will buy only where things are cheap. For this reason I have always advocated that brands should be provided with brand names or "word-marks" by which they may be specified. But the products themselves, under their product names, should be open to competition, so that manufacturers may vie with each other in keeping up the quality. The manufacturer who produces the highest quality of quinine at the lowest price should have the trade. Why does not the same thing apply to *antikamnia*, *listerine*, *formalin* and all the rest? This would place the so-called "proprietary" medicine business on the same basis as the condensed milk business. Condensed milk is a product free to science and commerce alike, but the word "Eagle," to distinguish a brand of condensed milk, is controlled by the manufacturer and used by him as his trade-mark, word-mark or commercial signature. The function of the trade-mark is to point out the manufacturer by distinguishing his brand from other brands of the same product. It is not the function of the trade-mark to point out the goods. That is the function of the title. Therefore it is an axiom of law that titles cannot be trade-marks.

In a country where the question of conforming to standards is a matter of choice, some means must be devised to separate the sheep from the goats. I have frequently advocated in papers contributed to the medical societies and press the establishment of a bureau of *materia medica* with which physicians, pharmacists and manufacturers may voluntarily co-operate for the purpose of establishing and maintaining the standards of the pharmacopœia. The interests

involved could, if they chose, inaugurate such a bureau, and so conduct its affairs as to guarantee the standards of preparations marketed under its auspices. The bureau would be in a position to study the problems now facing the practice of pharmacy and drug therapeutics, and could assist in settling them satisfactorily to all concerned. The work of such a bureau would in no way interfere with that of the committee for revising the pharmacopœia. On the contrary, it would supplement and greatly assist it. In fact, such a bureau might be made up of members of the revision committee, and other experts, and prove of the greatest service to the professions of medicine and pharmacy, and to the public.

As I stated in my paper entitled "Proposed National Bureau of Materia Medica," published in the Journal of the American Medical Association for April 27, 1901, the objects of such a bureau would be: (1) to establish the standards of the materia medica preparations on the market and keep them under analytical and pharmacodynamic observation, with the aid and co-operation of the expert chemists, physiologists, biologists, botanists, pharmacologists and clinicians connected with the medical schools and colleges, and the pharmacists and manufacturers of medicinal drugs and chemicals; (2) to act as the medium of communication between the scientific workers in the laboratories, hospitals and clinics engaged in the investigation of new materia medica products, and those engaged in manufacturing and marketing them, to develop the knowledge of their origin, genesis, nature, composition, methods of manufacture, standardization, pharmacodynamic properties and therapeutic uses; (3) to collect the knowledge of materia medica products, reduce it to law, embody it in system and publish it for the benefit of science; (4) to aid the manufacturers of materia medica products and preparations who conform their goods to recognized standards in the introduction of their brands to commence by advocating that the medical profession in prescribing shall specify those brands that are marketed under the guarantee of such a bureau, and are thus shown to comply with scientific and professional requirements.

CERTIFIED MINERAL WATERS.

Dr. C. W. Chancellor, of Washington, D. C., contributes an article on mineral waters to *American Medicine*, concluding as follows:

"In collecting and dispensing mineral waters the utmost care should be taken to preserve the gases and prevent decomposition of the chemie constituents. This can only be accomplished by bottling the water at the spring. A quart or half-gallon bottle will answer the purpose. Care should be taken to have the vessel thoroughly clean; the cork should be new and clean, and fit

well. The bottle should be plunged into the water with the mouth well under the surface. Fill to the neck, then insert the stopper, previously well soaked in hot water, and cover with a piece of clean muslin, wash-leather, or gutta-percha tissue, tie securely and seal.

"Barrels, carboys, demijohns and jugs are to be avoided; water should never be decanted from one vessel to another. In filling bottles, unless at the spring, the gases unavoidably escape, the chemie ingredients become decomposed and, what is worse, the water is exposed to the influence of the surrounding atmosphere, often contaminated and filled with spores, germs and other low forms of life, which find their way into the water and cause disease among those who drink it. Under no circumstances should bottles be refilled until they have been thoroughly cleansed and sterilized by washing them with strong sulphuric acid, followed by ordinary pure water, until there is no longer any taste of acid, and finally rinsing them with some of the water to be bottled. All this, however, should be performed at the spring.

"No one who has paid any attention to the subject could fail to observe the incredible filthiness which is too often practised in handling empty mineral water bottles. The uncorked, empty bottle, for which a rebate is allowed, is sometimes disposed of to junk dealers, or temporarily stored in some filthy cellar, outhouse, stable, bathroom, water-closet, or it may be in a room infected with dangerous micro-organisms. In this way the bottle becomes filled with bacteria, which are omnipresent in the air of such places, and once having entered the bottle they can not be displaced by ordinary rinsing. It has been observed, moreover, that returned bottles sometimes bear unmistakable evidences of having been used for very uncleanly purposes.

"To ensure safety, no bottle should be refilled except at the spring, and after having been thoroughly sterilized. A new and fresh bottle is, of course, to be preferred. The bottling should be done in the presence of a responsible officer, who should affix his seal of office to each bottle. Certainly a compulsory system of inspecting mineral waters might be inaugurated, after the fashion of milk inspection in many cities.

"In 1893 the term 'certified milk' originated in New Jersey. A commission was organized with the view to ensure milk properly prepared and properly handled; buildings were required to be well constructed, drained and ventilated, and the milk kept apart from all sources of contamination. Cows were required to be handled by milkers with clean overalls and clean hands; the milk packed in glass jars, thoroughly cleansed and sterilized, and hermetically sealed. These jars are then labeled 'Certified Milk,' and no other milk is allowed to be sold. Why should we not also have our mineral waters inspected and labeled 'Certified Water?' "

REPORT OF A CASE OF BUBONIC PLAGUE.*

By E. L. WEMPLE, M. D.

PLAGUE is a very virulent, infectious disease, caused by a specific organism which results in the formation of one or more buboes, or in the development of a virulent form of confluent pneumonia. Two varieties are commonly known: the bubonic and the pneumonic; in the former buboes occur in the femoral, inguinal, axillary, tonsillar and cervical regions; in the latter there are no buboes, but the septic process manifests itself in the mesentery, the gastro-intestinal tract, the lungs, kidneys and the brain.

This disease is supposed to have existed as early as the second century of our era. In the seventeenth century it raged in London, and in the present century there have been epidemics in China and India. William Osler says the endemic centers of the bubonic plague are in Tripoli, southwestern Arabia, a large section of Asia, comprising Mesopotamia, Persia, and Kurdistan; the districts of Koaman and Gurwhal in northwestern India, and southwestern China. In 1893 Kitasako described the bacillus *pestis* (which he found) in the blood. The bacillus described by Yersin differs slightly from that of Kitasako.

C. A. Viegas was the first to report the outbreak of bubonic plague in Bombay, in 1897. He believes that the disease is due to, or at least favored by, the accumulation of sewage filth; that the predisposing causes are warm climate, poverty and youth.

Following this report is the investigation of the disease by the Plague commission of the Imperial Academy for Sciences of Vienna, and as a result of their work they recognize two varieties, the bubonic form and the pustular form. In both of these varieties the swollen glands may undergo resolution or suppuration with or without the development of general septicemia; the true septicemic forms commencing with high fever, delirium and collapse; the pneumonic form commencing with chills, rapidly increasing dullness in one or more lobes of the lungs, and serious, white or rusty sputum, and is to be distinguished from croupous pneumonia by the extreme prostration and a considerably enlarged spleen.

A. H. Doty considers that the short period of incubation of plague (5 days) is the greatest safeguard against its introduction into any country where the disease does not exist. The virus may, however, be transmitted by clothing, articles of merchandise, etc. Small animals, particularly rats, die during epidemics of plague. This fact has suggested that the specific organ-

ism discovered by Kitasako and Yersin might be of telluric origin. Whether this be the case or not, there is much evidence in favor of the contention that plague is a soil-bred and supported disease. Although small animals, flies and fleas, die of this disease or may spread it, it is more logical to conclude that unsanitary conditions favor its spread.

The disease is ushered in with a chill, the patient reels like a drunkard, owing to marked vertigo, and complains of headache and lassitude. This is apparent in the features, markedly the drooping eyelids. This apathetic air and the indifference to surroundings constitutes the *facies pestis*, so aptly described by Viegas, who lays great stress upon the physiognomy of the disease, which he describes as that of a person who has been taking hypnotics for persistent insomnia, without obtaining sleep. According to Bullard, the tongue is swollen, shows the impression of the teeth, and is covered with a white fur resembling mother of pearl. In the bubonic form the bubo appears in the first few days. It is most frequently in the groin, next axilla and the neck. The neighboring tissues become tumefied and edematous; the pulse often slow at first, soon becomes small and rapid; delirium and excitement now appear, and often the patient must be tied in the bed. Physical disorders are manifest, and speech is disturbed. The bubo occasionally suppurates or becomes gangrenous; carbuncles and extensive petechiæ (plague spots of old writers) often occur.

On Monday, 11 a. m. October 27th, 1902, I was called to see Arthur W. Caswell, at 409 Turk street. He was 33 years old, married, a clerk in a furnishing store on Third street, and said to be dissipated in his habits. During the two weeks prior to his illness he had tried on new clothes for as many as a dozen soldiers who had just returned from Manila. I found him suffering from backache, stiffness of the limbs, a feeling of anxiety and restlessness, and great systemic depression. The tongue was brown in the center, with red margins. He refused all food, was nauseated, and had been vomiting. The bowels had moved several times in the three preceding days. The patient dated all his illness from the night of the 24th of October, and says a tumor came down while at stool. From this time on he felt the tumor in the right groin, and the pain soon became intense. I found him with a pulse of 96, respiration 30, temperature 103.8. The tumor felt like a large mass of swollen glands in the femoral region; but as there was another

* Read before the Academy of Medicine, San Francisco, at the Regular November Meeting, 1902.

above Poupart's ligament I was in doubt as to its true nature, and advised that he be taken to the hospital, where I would remove the mass; and at 1:30 p. m. on the same day, October 27th, I operated, and cutting into the tumor found it to be composed of large lymphatic glands, many of them hemorrhagic and not unlike placental tissue in appearance. There was an edematous condition of the skin and underlying structures from which oozed a glistening serum. I dissected out the glands from the pubic portion of the fascia lata, when I found that the swollen chain extended up into the pelvis. I then suspected that it might be a case of bubonic plague, and had the patient quarantined in a room.

Dr. Wemple, Jr., made a smear that afternoon, and the picture was very much like that of the disease. This smear was shown to Dr. H. A. L. Ryfkogle, and it was his opinion that it contained bacillus pestis, there being a diplococcus infection as well. He said the inoculation of a guinea pig from the contents of a gland and its death from plague was all that was necessary to make a positive diagnosis of bubonic plague. This was subsequently done by Dr. M. J. White, of the United States plague laboratory, and the diagnosis was bacteriologically confirmed.

Before operation the temperature was 104, pulse 94, and respiration 34. At 8:45 p. m., or five hours after the operation, the temperature was 103, pulse 96, respiration 36. The pain was less severe, in fact he was very easy much of the time, though he complained of being chilly. One-thirtieth of a grain of strychnine was given every four hours. At 10:15 p. m. the temperature was 104.8, and one hour after 60 cc of Yersin serum was given it dropped to 101.8, pulse 94, and soft. From this time on till 2:45 p. m. October 28th, his temperature did not rise above this mark, and the pulse became slower, but weaker.

The general condition seemed to be better in every way. The anxious expression and restlessness were much lessened.

The following record is taken from the City and County Hospital, where the patient was removed and quarantined October 28th, 1902:

October 28th.—During the day the temperature ranged from 101 to 101.5 with pulse of 98. He was very restless and nauseated, but did not vomit, nor did he sleep. 20 cc of Yersin serum were given, and 2 ounces of whiskey. He voided six ounces of urine.

October 29th.—Temperature ranged from 102.2 to 102.5; pulse ranged from 98 to 125; respiration from 24 to 32. Slept half an hour. At 12 m. he became delirious. Up to this time he complained of great pain in his back and abdomen. 20 cc of Yersin's serum and two ounces of whiskey were given. At midnight he was so delirious that he had to be held in the bed.

October 30th.—Temperature 102.3-5 to 104; pulse 108 to 120; respirations 30 to 34. At 4 p. m. he was delirious and sweating profusely. Forty cubic centimeters of Yersin's serum given. At 11 p. m. 20 cc of serum given intravenously in each arm; after this, 80 cc more were given with no effect; still delirious and no sleep. One-thirtieth of a grain of strychnine was given, 18 ounces of milk and one egg.

October 31st.—Temperature 104.4-5 at 2:30 a. m. Pulse 150, respiration 30. At 8 a. m. the temperature was 102.2-5, pulse 110, respiration 30. This was after 60 cc of serum had been injected and the bowels moved with calomel. Three-thirtieth of a grain of strychnine was given from 2:30 a. m. to 8 a. m. At 12 m. the temperature was 104.2-5, pulse 130, respiration 32. One-tenth of a grain of strychnine and one fiftieth of a grain of atropin were given between 12 and 5:50 p. m. He became unconscious at 5:30, and at 5:50 his temperature was 108.2-5, pulse 170, respiration 43. 20 cc of serum were given. At 6:15 he died.

I am indebted to Dr. Howard Morrow, City Bacteriologist, for the following report of his investigations:

"Smears from the iliac and lumbar glands showed no organisms. Smears from the spleen showed a few pest-like bacilli. Pure cultures were obtained from these organs. A pig was inoculated by the skin method with a gland removed at the time of the operation, and he died on the sixth day. The post mortem findings were characteristic of plague. Pigs were inoculated with pure cultures and died in the usual manner. Cultures and sub-cultures from the human spleen and from the pig's spleens grew characteristically on the various media; culture tubes inoculated with blood from the ear during life failed to grow colonies. Cultures from the wound the day following the operation showed a mixed infection of pest bacilli and pus cocci."

Diagnosis—Bubonic plague with secondary involvement of the lungs.

Through the courtesy of Dr. Morrow I am able to give you the following report of the autopsy as made by Dr. M. J. White, of the United States plague laboratory:

"The iliac and lumbar glands on the right side were enlarged, injected and contained areas of hemorrhages. Some of the glands were broken down, the surrounding tissues being edematous and hemorrhagic. The edema extended as high as the right kidney. The spleen was normal in size, its capsule being wrinkled and the pulp very soft. The hypogastric glands were necrotic, but not hemorrhagic. The lungs besides being somewhat edematous posteriorly contained a few small areas of consolidation in the middle lobe of the right lung. The heart showed an acute

myocarditis. The ureters and suprarenal capsules appeared normal. The glands of the axillae and the left inguino-femoral region were slightly enlarged and showed corticle hemorrhages."

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CALIFORNIA ACADEMY OF MEDICINE.

REGULAR MEETING IN NOVEMBER.

The regular monthly meeting of the California Academy of Medicine was held at the offices of Dr. Harry M. Sherman on Tuesday evening, November 25, 1902.

The following papers had been announced to be read before the Academy:

"Changes Noted in Renal and Perirenal Tissues, Following Decapsulation of the Kidney of the Dog," with exhibition of specimens, by Harold Johnson, M. D. (by invitation).

"A Case of Plague," by E. L. Wemple, M. D. (by invitation).*

"Persistent Glossitis in Secondary Syphilis," by D. W. Montgomery, M. D.

"On the Denudation and the Suture in Repair of the Perineum," by G. B. Somers, M. D.

In the discussion on Dr. Wemple's paper, Dr. Harold Johnson asked what diagnosis had been made before the operation. Dr. Wemple replied that no definite diagnosis had been made.

The President, Dr. Montgomery, called attention of the members to the great importance of the paper under discussion. He stated that plague cases had been found in five hospitals in the city, and there was no doubt that eventually it would appear in every hospital in San Francisco.

Dr. J. Henry Barbat said that he had seen the patient a few hours before the operation and made but a casual examination. He ran his hand over the swollen glands and found they were very tender. He made a snap diagnosis, based on previous experience, of a possible hernia containing a perforated appendix. That infection was present was evident from the appearance of the skin.

Dr. Rixford asked if the patient had vomited before the operation, and if his bowels had moved. Dr. Wemple replied that the patient had vomited several times, and that the bowels had moved prior to the operation. He did not

consider it could be a case of plague, for the man had said he had not been in Chinatown for months. He further said he had not known that plague had got outside Chinatown.

Upon being requested to speak to the question, Dr. Glennan of the United States Marine Hospital Service, who was present, replied that owing to the fact he was in the city on official business connected with his department he did not feel at liberty to give any expression of his opinion on the subject.

Dr. Montgomery said that in his opinion plague had come to San Francisco to stay; that we would have to accept the situation and work with an understanding that such is the case. In his opinion it was the price we are called upon to pay for the Oriental trade.

Dr. Wemple, in closing the discussion, said the President and himself seemed to be the only two physicians present who were willing to freely discuss the question. It was the first case of plague he had seen, and he had not previously devoted much time to studying the published literature on the subject. He considered it the duty of every physician to at once thoroughly post himself on the subject of the disease, as he might encounter it at any time.

In the discussion on Dr. Johnson's paper, Dr. Tait gave a resume of the work along this line done upon a rabbit by Albersson. He highly commended the work done by Dr. Johnson, and urged that he should continue his investigations. All of this experimental work seemed to show that the claims made by Edebohls could not be substantiated. He thought the tendency of surgeons to enter upon the field of the medical man, without co-operation with the pathologist, was decidedly wrong.

Cases Presented—Dr. Harry M. Sherman presented a patient who had suffered for several years from trigeminal neuralgia of the left side, mainly confined to the third branch. For several years he had taken everything recommended to him, but, as usual, without relief. He was first seen by Dr. Sherman a year ago. Operation was recommended at the time, but was rejected. One month ago the patient returned, having decided to undergo the operation. Dr. Sherman said the operation resulted in a complete therapeutic success. He started to do Frazer's operation, but when the bone was cut into hemorrhage was profuse, and the operation was long and tedious. It was often necessary to pack the flow and wait for ten or fifteen minutes at a time. He saw the ganglion vaguely, on account of the profuse hemorrhage from the very adherent and thickened dura. The ganglion was removed, the wound packed, latter sewed, and the result satisfactory. The patient had no subsequent neuralgia. The region of the third nerve is now anesthetic. He did not remove the zygoma, as

* Dr Wemple's paper will be found in full on preceding pages of the Journal.

recommended by Frazer, for it was unnecessary. Profuse hemorrhage was the only obstacle in the operation.

Dr. Sherman said that Dr. Newmark, who was not present, had reported to him that the ganglion showed round celled infiltration.

The second case was presented by Dr. Emmet Rixford. The patient was a boy who had been operated upon five years ago, when almost moribund. At that time there was a very bad Pott's disease and a bad tuberculosis of the right hip. Three inches of the femur was removed, together with practically all of the acetabulum and much of the ischium. The result was very good. The boy has active flexion of nearly 90 degrees, can ride a bicycle, ride horseback and walks fairly well, with the use of a cane. Lately he has had some pain in the lower dorsal region and has returned to his crutches.

In the discussion of this case Dr. Sherman said that the amount of motion resulting was worthy of comment, and that Dr. Rixford should be congratulated upon the result of the operation. He considered it a general principle that in operations on tuberculous bone the surgeon should go as far as the tuberculous bone and the life of the patient would permit. Several times he had removed the whole of the osteomata without removing the limb and combining amputation with the removal of the osteomata. The patients died. He suggested that the use of a patent extension shoe might be of advantage.

Dr. Rixford said he had not attempted more than a resection of the hip; that he could not say how much of the bone tissue had been removed, for he had curetted all the tuberculous bone he could find.

Dr. Sherman said it was possible to remove a great deal of the shaft of the femur, but that the new bone growing from the periosteum did not keep the tubular shape of the bone, but was flat and weak.

Dr. Hunkin said he had discussed the relative advantages of excision and amputation with Dr. Sherman and they did not agree. He had recently amputated a leg and found the femur entirely disorganized. At the ankle joint, or just above, the bone was so soft that it could easily be crushed with the fingers.

Dr. Sherman said the bone may be very soft, but not necessarily diseased, and many patients recover when all the diseased bone had been removed.

Dr. Rixford presented a patient upon whom he had performed a bloody reposition of an old luxation at the elbow. He cut off the olecranon on the ulna. Subsequent X-ray examination showed that he had not removed sufficient new material, which had filled the olecranon fossa. A subsequent operation had corrected this difficulty to a considerable extent. He expressed the opinion that the cosmetic result was desirable when this condition is encountered in women, but that

in case of a workingman the mechanical result is desired and resection is to be preferred.

Dr. Rixford also presented a patient of whom he had spoken at the last meeting of the County Medical Society, where he had shown X-ray photographs. The case was one of supracondyloid fracture, in which there had been considerable rotation of the fragments.

In the discussion Dr. J. Henry Barbat said in fractures and dislocations at the elbow that are not reduced within twenty-four hours he considered it best to cut down upon the joint and remove the new material poured out into the joint. In operating upon the elbow for old injuries the mistake usually made was not to take out enough new tissue.

Dr. Sherman did not agree with Doctors Barbat and Rixford in the necessity of reoperating for the removal of more tissue from the sigmoid cavity. While these cases generally show little or no motion at the time the splint is removed, the amount of motion increases with the passage of time.

Dr. Rixford said there was a great difference between the treatment required for children and that suitable for adults. In children the result might be considered as generally good.

Dr. Sherman said the reason for rotation of the fragments when a supracondyloid fracture is dressed in extension, is probably due to the fact that the arm offers nothing firm to hold the dressings, and that in moving the hand or forearm the fragments might easily be rotated. He had abandoned the practice of dressing this condition in extension.

Owing to the lateness of the hour, after Dr. Somers' paper was read the meeting adjourned. The reading of Dr. Montgomery's paper was postponed.

DEATHS.

Dr. William T. Garwood, for upward of thirty years a physician of San Francisco, died at St. Luke's Hospital on November 21st at the age of sixty-five years, leaving a widow and three children, two daughters and a son. He was a native of Philadelphia, but almost his entire professional life was passed in this city. In early days he was the resident physician of the City and County Hospital, when that institution was located at North Beach. He was the first Superintendent of the Almshouse, and served one term as Coroner of San Francisco.

Dr. James F. McCone died on the 7th inst. at his residence, 1132 Sutter street, San Francisco. Tubercular disease of the hip was the cause of his death. He graduated from Santa Clara College in 1889, from the Royal College of Surgeons, London, 1894. He was on the staffs of the French Hospital, City and County, and Mt. Zion. He was also a member of the State Board of Medical Examiners.

POINTS IN THE MANAGEMENT OF CLEFT PALATE CASES, BEFORE, DURING, AND AFTER OPERATION.*

By HARRY M. SHERMAN, M. D.

Professor of Surgery, Medical Department University of California; Surgeon to St. Luke's Hospital, and Orthopedic Surgeon to the Children's Hospital.

SEEMING trifles may often count for much in a general proposition, and that is my reason for presenting to you *in extenso* the details of the method I follow in the management of a cleft-palate case. There is, I am sorry to say, nothing particularly new and nothing original; but the technic, if it can be called that, has been worked out through failures and disappointments, and has lately given me some satisfaction, and therefore I bring it to you.

I do this particularly because there is, in American and English text-books, a general dearth of instructions, save for the operative work itself; and unless one has seen others work, or has carried out the after-treatment as assistant or interne, he may be in the position of having to operate upon his first case without much experience and with but vague ideas on points that are, I am sure, important. Since this paper was written I have found in Terrier, Guillemin and Malherbe's *Chirurgie de la Face* a most excellent chapter on the subject of urano-staphylorrhophy and can recommend it to any one who is interested in the subject.

The management, which is the subject of this paper, must begin some time before the operation itself, and is then concerned with the preparation of the patient; it also refers to certain points of the operation which make the procedure easier and shorter; and it is intimately related to the whole period of the healing process, at the end of which you may, if you are fortunate, register a success, or if you are unfortunate and have stitch after stitch tear out and much or all of the suture line fall open, you may have scored only a partial or a total failure.

The preparation of the case consists in getting the throat in the best possible order, and in training the child patient to submit to and even aid in the manipulations which are necessary to keep the parts clean. For the proper accomplishment of this last, the child must be taken from the parents and put in the care of a special nurse. This woman must then begin gently but firmly to spray the mouth, fauces and nose with perfectly bland solutions—salt solution, for instance—so that the spray itself, as a spray, ceases to be a source of terror. At the same time the tonsils and edges of the cleft in the palate receive appli-

cations of the solution and the child is taught to open the mouth widely and to submit readily to the manipulations.

I have found that many of these children have tremendous amounts of adenoids in the pharynx, and if this pertains in any case I ask my colleague at the Children's Hospital, Dr. W. E. Hopkins, to take charge of the child during this preliminary period and thoroughly clean out the lymphoid tissue from the pharyngeal vault. It is easy to make this a complete operation, because the open cleft permits one to see into every part of the pharynx. Finally, if there are any bad teeth, the child is referred to Dr. Beard, the dentist of the Hospital staff, to have them filled, cleaned and put in thorough order.

All of this may take nearly a month, but it should bring the child to the operation with a clean nose, mouth and pharynx, and with no fear of the handling which is so important in the after-treatment.

For the operation, chloroform is the preferable anæsthetic, given either by the modified Junker apparatus, which is used by Dr. Botsford, or on a very large Esmarch mask. Over the child's eyes pads of gauze or cotton are put, then a rubber-dam bathing cap is drawn on the head, covering the hair, the eyes, the ears, in fact, all of the head and face except the part that you need to work on. It is an immense comfort to have the hair, in these cases, so fixed, as in this cap, that it cannot get in your way. Next the child is swathed in a sheet and a snug bandage is put around to fasten the arms to the sides, so that a hand can, by no possibility, get loose. The child is finally put supine on a low operating table, with the head hanging over the end, and a second bandage is put around table and child, so that no squirming or other motion may be permitted. The operator sits at the end of the table and his height is adjusted in such a way that he can take the child's head between his knees. Now, men have no laps in the sense in which women have, so to make up for the deficiency in this respect I lay a towel, folded lengthwise, across my knees and let it dip down between them enough to pass behind the child's head. The ends of the towel are then firmly pinned to my trousers on the outer side of each

*Read before the San Francisco County Medical Society, Tuesday evening, November 11, 1902.

knee. In this way the head is in a hammock and at the same time is between the knees where it can be gripped. By raising either knee the head can be rolled in the opposite direction, and this is of use frequently, especially in placing the posterior sutures in children with small mouths. The position is practically that of Rose of Berlin and has the advantage in particular of keeping the larynx and throat free of blood.

The next step is the introduction of the gag, and I wish to say a little about gags. Here, as elsewhere, in surgical instruments, simplicity is a merit. Of the two gags I show you, [At this and at other times Dr. Sherman presented for examination the various instruments to which reference was made] one is an ordinary White-head (Fig. 1), stripped of all the tongue-depress-



Fig. 1. (About two-thirds actual size.)

ing accessories. The other (Fig. 2) I got at Mathieu's in Paris, but I do not know who designed it. It, too, has had some tongue-depress-

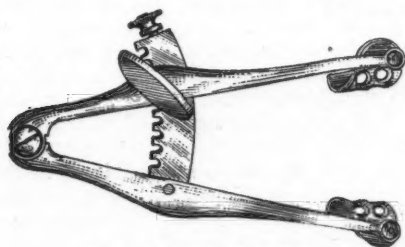


Fig. 2. (About two-thirds actual size.)

ing plates removed from it. The objection to the parts which depress the tongue is that they crowd that organ down on to the larynx and shut off the

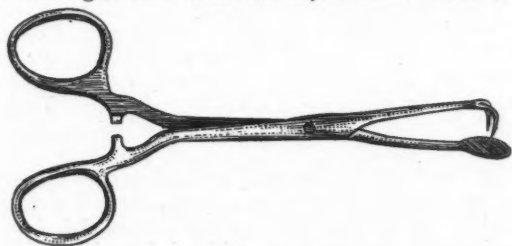


Fig. 3. (About two-thirds actual size.)

respiration. In their place I use a two-prong tongue forceps (Fig. 3), which holds the tongue

perfectly, does not pinch or contuse it, and leaves practically no wounds. A silk stitch, making a suspension loop in the end of the tongue, will answer the purpose equally well.

Before any operative work is done in the mouth the sides of the cleft, the vault of the pharynx, and all of the parts that are in sight are thoroughly swabbed with Adrenalin, in the strength of the original package. This materially lessens the amount of bleeding and diminishes the secretion of mucus, and while the operation cannot be made absolutely bloodless, it can be made much less bloody than without this drug. Its use is, I am sure, a distinct advantage.

The operation which I have almost always done is that evolved by J. Roux, J. Mason Warren and Trelat, and called by the latter uranostaphylorrhaphy. It is to-day the classical operation and does not need a detailed description at my hands. In brief, it detaches from the hard palate sizable flaps of mucous membrane and periosteum, each the width of the space between the cleft and the base of the alveolar process, and never, according to Trelat, less than one centimeter wide, and always preferably wider. These flaps, detached in the middle and attached at each end, are slid toward each other in the median line, where they are sutured, thus closing the median gap, but leaving two lateral gaping incisions. These lateral, open, incised wounds are inevitable, but they are always packed with gauze, are easily kept clean by a little care, and invariably heal properly by granulation and so are no real detriment.

The sliding flaps present, in their new situation, after suture, a mucus surface in the mouth which is satisfactory; but in the nose they present a periosteal surface, which is exposed continually to the inspired air and cannot help becoming infected, the amount and character of the infection and the reaction of the child being two important quantities in the equation which represents the chances of a satisfactory healing.

Sometimes I have tried the exceedingly ingenious method of Alexander Hugh Ferguson of Chicago, by which no tissue is sacrificed in paring the cleft, and which leaves mucous membrane in both nose and mouth. His first incision, copied after Mr. Davies Colley, turns up from the buccal side of the edge of the cleft a long narrow strip all the way around the opening, and this is turned up into the nose and sutured, side to side across the cleft, closing it and forming a mucous floor for the nose.

This suturing is done with fine silk, the sutures being expected to slough out and be expelled. It is in this respect that the operation fails, so far as I have observed it in my own hands. In each instance in which I have tried it the sloughing suture infected the whole suture line and all of my

work sloughed out, reproducing the cleft. The rest of Ferguson's operation is practically after the classical method.

There are certain instruments which may be mentioned here. Two knives are useful, one a short, narrow, slightly curved, sharp-pointed blade on a long shank, to pare the edges of the cleft. It must be very sharp to pare straight to the tips of the halves of the uvula. The other should be a short, strong blade, with a straight edge and sharp point, also on a long shank, for the lateral releasing incisions. Two periosteum elevators, curved both on the flat and on the edge, and made rights and lefts, are useful to separate the muco-periosteal flaps, and a straight one is needed to work backwards and separate the soft palate from the palatal process of the palate bone. The instruments I show you are

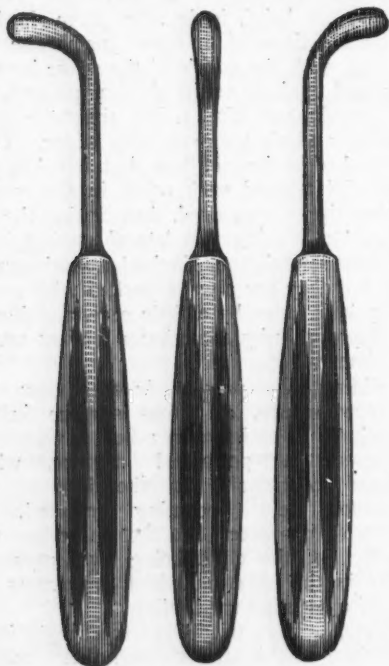


Fig. 4. (About two-thirds actual size.)

larger than they need to be for this work, but are not, however, too large for it. (Fig. 4.)

The suturing permits an operator to consult his own preference. It may be done with short, fine, full-curved needles in an ordinary needle-holder, and then I use a holder without a catch, so that there shall be no jar in releasing the hold on the needle, or, one may use the needles on handles which I have known as Goodwillie's, but which also bear the name of Durham (Jacobson's "Operations of Surgery"). These are made to use in the right or left hand and will meet almost any sutural contingency. Personally I like ex-

ceedingly the sharply curved needle of Tre-



Fig. 5.
About two-thirds
actual size.

lat in a handle (Fig. 5), and with it do all of the work in the anterior two-thirds of the cleft. These needles in handles may be armed with the suture before being introduced through the sides of the cleft, or they may be armed while in the tissue; but the description of the intricacies of the manipulations, which are really not great, would be out of place here. A word may be said, however, about suture material. Silk should be mentioned only to be condemned. I have tried forty-day chromicized catgut, but did not care for it. Silver wire is too stiff for the very delicate tissue of the flaps. Fine silkworm gut, boiled to make it pliable, is excellent; but coarse horse hair, I just now think, is better. In tying the horse hair, however, three knots must be made to prevent slipping. This suture may be left in the tissues almost as long as one wishes, and is all the time an absolutely unirritating substance.

Now, the surgeon who has done one of these operations up to this point, and has done a workmanlike job, closing the cleft with no strain on his flaps and no unnecessary bruises of the tissues, has just begun the real task. Under any circumstances he must leave his wound open to the air, ready to be infected with any organisms in the nose above or the mouth below or the throat behind the mouth. I have worked very hard at this proposition, and have many times had to sit down on the third, fourth or fifth day and see staphylococcus take complete possession of the field and undo most or all of what I had accomplished. This is a case where antiseptics are demanded. Asepsis is impossible. The thing I had to find was an efficient antiseptic that would not injure the tissues. Again, the antiseptic can be applied only to the buccal surface of the incision, for the nose will not tolerate sprays of efficient germicidal strength, and swabbing in the nose is not practical. Borca, of Paris, uses in the mouth a one per cent solution of chloral hydrate, but children cannot stand it sprayed into the nose. I have been obliged to content myself with Dobell's solution—the real Dobell's, with carbolic acid—and have made up in quantity for its deficiency in quality, using it freely and often. To this the child who has been trained submits with but little protest.

In the mouth I have used, and still use the one per cent chloral solution as a spray, but it is not efficient against the staphylococcus, once that is implanted in the soft tissue which is bridging the space between the flaps. Touching the line of suture with tincture of iodine once a day has sometimes been a satisfactory method, but more

often it has failed, for the saliva and mucus of the part prevented the drug reaching the deeper levels. Pure carbolic acid may be lightly touched along the whole line of the wound twice a day, and is not bad, but it somehow still leaves something to wish for. The stearate of zinc, insufflated into the mouth, with the hope that it would keep the parts comparatively dry and so lessen the likelihood of infection, was a failure; and Dobell's solution, to which I was restricted in the nose, was of no use in the mouth. Finally, I learned from my colleague, Dr. W. E. Hopkins, to use a two per cent solution of salicylic acid in alcohol as an application in cases of staphylococcus and streptococcus tonsillitis, and it did well enough to make me try it in my cleft palate work. The effect has been exceedingly good, and I have gotten in four consecutive operations results which I expected only once in a long time. Of these cases, one child had had four total failures and the fifth operation was a complete success, though the uvula had to be left unsutured because of the small mouth and narrow fauces. The room was so cramped that when the tongue was pressed down to give a practical space, it pushed the epiglottis down over the larynx, closed it and stopped respiration.

In the second child all but a very little at each end of the total cleft, which was closed in its whole length, healed at once, and the little gaps were easily closed at secondary operations.

The third child had a florid scarlatina develop the third day after the operation, but the palate healed perfectly in spite of it.

The fourth child became infected, but the infection receded and all healed except a small opening at the anterior end. This is now closing under pure carbolic acid on the edges twice a day.

Both the chloral solution and the salicylic acid in alcohol are germicidal, but there are other measures which can be taken to have auxiliary action and which are of value. One such indication is to keep the mouth dry, and this is done by the use of atropin, in dose proportional to the age and reaction of the child, and given hypodermically. Another point is to keep the child quiet, and especially to prevent crying, and for this morphine is used, enough for the purpose being given, also hypodermically, and with the atropin.

Pressure of the tongue against the newly sutured palate is to be avoided, so the child is not fed by the mouth, but by the rectum. The absence of food or food remnants from the mouth is a measure of cleanliness of definite value. But rectal alimentation is not enough to supply all that the child needs for maintenance, growth and repairs; so at the end of three or four days fluid feeding by the mouth is begun—milk being the food—and the rectal alimentation is abandoned.

As regards the intervals for the applications, Dobell's solution is used in the nose every two

hours, night and day for the first few days, and after that at longer intervals. The chloral solution is used in the mouth at the same times. It is important to remember here that the staphylococcus does not care for the day or night, and the treatment must never be omitted because of darkness. The salicylic acid in alcohol is used on the line of suture in the mouth twice or thrice a day. The packing of the lateral incisions is changed every day or every two days, and the new packing is saturated with the salicylic acid and alcohol. The atropin and morphine are given by the interne in charge of the case in accordance with the indications, every four, six, eight or ten hours.

I beg to anticipate the charge that this is too complicated. I acknowledge that it is so; but each thing has, in my mind, at present at any rate, a definite purpose which it serves. When the time comes that I believe it possible to dispense with any one, it shall go, and both the child and I shall be glad to get rid of it—and the first to go shall be the chloral solution.

I append a little tabulation of the results of these operations. No case was a cleft in the soft palate only. All included clefts in the bone, varying from one-third to two-thirds of the length of the bony palate. Two were complete clefts, with associated harelip, the latter having been operated upon before the case came to me.

In all there were thirteen patients, and twenty-six operations were done:

Three patients had each one operation, resulting in success.

Four patients had each two operations, resulting in final success.

One patient had three operations, resulting in final success.

One patient had five operations, resulting in final success.

One patient had two operations, resulting in one-third success.

One patient had one operation, resulting in partial success.

One patient had two operations, resulting in failure.

One patient had two operations, and died from convulsions, from which he had previously suffered, the day after the second operation.

All of the successes were by the ordinary method of urano-staphylorrhaphy. Not one operation done by Ferguson's method succeeded in my hands. The average age of these patients was between four and five years.

The citizens of Vancouver, B. C., are raising funds with which to erect a general hospital. Fifteen thousand dollars has already been subscribed.

The graduate nurses of Seattle are forming themselves into a permanent organization, one of the objects being to maintain a bureau where their services may be secured at any time.

SUTURING OF MUSCLES AND TENDONS.*

By D. D. CROWLEY, M. D.

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THE subject which I have to-day introduced to you may not elicit as much interest as many that have preceded it on occasions like this. The invasion of the surgical field, during the past decade, has been prosecuted with unusual vigor and the most remote parts of the human anatomy have been visited by the surgeon's knife. I am inclined to think that the unusual surgery has crowded aside that which is commonly met with, and the technique of ordinary work is greatly neglected.

There is but little danger to life in the surgery of tendons and muscles, but it is a work that requires a definite knowledge in order to effect the continuity and to re-establish a usefulness in these structures, and in this reference the medical literature of the day is sadly wanting.

I have given some little attention to this subject, but the results of my researches have thus far been unsatisfactory, and I have come before this assembly of professional confreres not altogether satisfied with the work I have undertaken.

When a muscle is divided there is immediate retraction of its fibers. The more active and the stronger the muscle, the greater the separation of its divided ends. This is well marked in the flexors and extensors of the thigh, of the arm, and muscles of the shoulder and hip. In rupture of the rectus abdominis there is frequently a separation of from one to two or more inches. When the ends of the divided muscle are permitted to remain widely apart during the repair, the new material, which fills the space, has little or no contractile power; it is merely a cellulofibrous material and almost tendinous in appearance and to the touch. The muscular fibers that have contracted toward their muscular attachments have adhered to their sheath and are practically useless.

In wounds of the abdominal muscles, where the same fibro-cellular material tries to effect a muscular compensation, the pressure outward of the abdominal contents elongates and attenuates this reparative material, and at last the muscular deficiency permits a complete hernia to take place—a condition that sometimes follows a laparotomy where the wounded tissues have not been carefully opposed.

The rupture of a muscle generally occurs where the muscular fibers meet the tendon; but in a few instances is situated in the body of the muscle. The laceration of a muscle may be in

a few of its fibers or in the entire thickness of one muscle or several muscles.

In the usual rupture of large muscles the conditions are so well defined that only a cursory examination is necessary to determine the condition of the part. It results generally from sudden and violent muscular exertion; and while this condition may take place in a trained athlete, it is more apt to occur in those who are not used to muscular exercise.

In my experience I have observed that persons of sedentary habits have more frequently experienced this injury than the trained athlete, and in my surgical attention to the football team and to the Athletic Association of the University of California for three consecutive years, I have observed rupture of the muscle only in the beginning of the training period. It may be stated that nearly all serious injuries to athletes occur in their early training. The pugilist scarcely ever experiences rupture of muscle or tendon, and this is owing to his superior training in the commencement of his work.

The rupture of muscular fibers is not always a result of extreme muscular exertion. I have known it, in several instances, to result from direct violence. In one instance the knee of one person violently struck the thigh of another and ruptured the quadriceps extensor of the person struck. In another, direct violence caused a partial rupture of the deltoid, and in another the gastrocnemius. In one instance a large dog collided with a person standing on the sidewalk; the dog's head striking the femoral biceps. The person fell to the ground and was thereafter unable to stand, the ruptured muscular ends being several inches apart. It may be said almost with certainty that the rupture of a muscle taking place at the point of impact is due mostly to direct violence.

In all cases of ruptured muscle there is a separation of the ruptured ends. The physician can usually discern the well defined muscular ends, especially in long and important muscles with a well defined depression between. These signs, however, are frequently masked within a few hours after the injury by a considerable hemorrhage which results in a tumorous mass. This tumor can be removed by incision, drainage and pressure, and after its removal an interval may be felt between the torn ends. If this bleeding is permitted to continue, without opera-

* Read before the Medical Society of the State of California, at the annual meeting, held in San Francisco, April 14-17, 1902.

tive interference, a free separation of the muscle takes place and a tumor of coagulated blood follows that will cripple the limb for months: sometimes permanently. The condition can, in a few weeks, be remedied by incisions and drainage. Afterwards, when the blood is permitted to remain, it becomes disorganized but not septic. The pain accompanying the rupture of a muscle is fairly characteristic. It is sudden and severe and limited to the site of the injury.

The circumstances occasioning the injury, with severe and sudden pain, with prominent tumorous masses, and, if no hemorrhage, a space where there should be muscle, or the characteristic pain with a fluctuating swelling, are sufficient to indicate the rupture of a muscle. In instances where the muscles are ruptured and the rupture is sufficiently well defined to be recognized by the prominence of the ruptured ends, an incision should be made over the injury; the muscle sutured and the ends accurately approximated. The muscle should be relaxed as much as possible by the position of the limb and the parts immobilized by splints and bandages, after the usual care is given to the external wound.

Rupture of the tendon does not frequently occur, and when it does, if subcutaneous and with but little separation, the position of the limb and rest may be sufficient to bring about the desired result.

In all instances of open wounds where the tendons are divided I advise their careful approximation, and "The Best Means of Suturing Tendons and Muscles" will be the purpose of this paper.

A case that I have already referred to is pertinent to this subject in that Mr. C., who, while standing on the sidewalk was run into from behind by a large Newfoundland pup. The impact of the dog's head was sufficient to rupture the "ham-string muscles." The patient instantly fell to the ground, became faint with pain and could not walk. After a few weeks he was able to go about, but could not flex his leg. A long, compact, tumorous mass took the place of the separation in the muscle, and this caused him so much continuous pain that he concluded that surgical interference might be required. I saw him first ten weeks after the injury, and discovered an unyielding mass along the flexors of the thigh, which might have been an organized blood clot. After the usual preparations for an operation I made an incision eight to ten inches long over the painful part. Opened the sheath of the muscle longitudinally; sponged out a large quantity of semi-sanguinous fluid and discovered within the sheath, where the belly of the muscle should have been, a tendinous structure from six to eight inches in length. This took the place of the muscular fiber and was of very little assistance to muscular contraction.

In continuing the operation I removed almost all of this tendinous structure and with the mattress suture effected relaxation and coaptation. Several sutures were used for this purpose. Then the edges were united by a continued catgut. The sheath was sutured and the muscular structure was stitched to the sheath for from two to four inches on each side of the coaptation. The sheath-stitches were used to give the muscular fibers a greater rest and for a time to destroy their activity. The leg was then fixed in an angular position and the patient made a good recovery with a normal use of the leg.

A carpenter had the triceps severed by a buzz-saw. He could flex the arm, but could not extend it. The wound of the muscle was stitched with chromicized catgut.—(Quilt suture).

The muscle was well retracted under the skin but during the suturing the skin was retracted from the wound, exposing the ends of the muscle, and the skin was so retained while the deeper suture loops were being introduced, including the muscle and skin; at least two inches on each side of the wound interrupted sutures were used for coaptation purposes, but the deep quilt loops were mostly depended upon for relaxation and coaptation.

The arm was retained in an extended position for four to six weeks, with, from time to time, passive motion. The patient was subsequently enabled to continue his work as carpenter, and was able to extend his arm with the necessary strength.

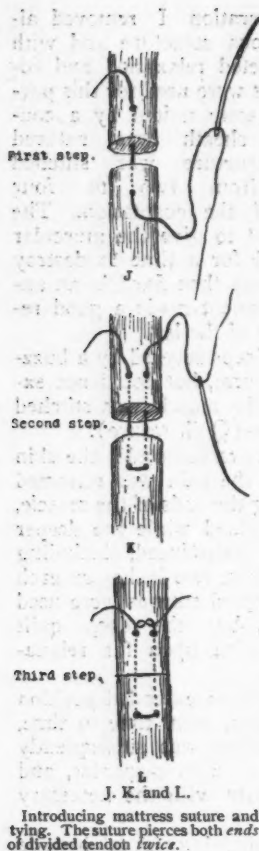
The secret of muscle suturing is to include in the suture the muscular structure a sufficient distance from the wounded end. The loops of the quilt suture are more effective than the interrupted stitch as it incloses and gives a greater purchase and support to the muscular fiber.

EXPERIMENT NO. I.

March 11th, 1902.

The dog was anesthetized with chloroform, no ether being at hand. Severed the heel tendon. The proximal end of the tendon retracted three-quarters of an inch. The distal scarcely at all. By firm pressure with the hand over the muscle the space between the divided ends was lessened, though I considered it expedient to slit the sheath of the tendon in order to reach it; used a mattress suture of chromicized catgut for approximation purposes.

The suture was entered first into the proximal tendon about one-half an inch from end, and was brought out at the center of its end, (J). Again it was entered into the center of the distal end and brought out one-half inch beyond. Again we return a couple of lines from the last point of exit (K) and carry it back through the tendon and tendon ends to the side of the initial point of entrance of the suture and there



ted. This completed a loop; all of the suture was buried at the ends, (L).

The tendon being small I concluded it would not bear two loops as the repeated puncture of the tendon by a comparatively large and cutting needle would too greatly wound it, so I united sheath with other peritendinous tissues. I did not and could not suture the sheath of the tendons which, when split, had become lost in the other tissues, except where it might be caught up with other tissues.

The wound was dressed and the limb was immobilized with plaster of paris. The animal broke the plaster splint soon after applying, and died twelve hours after from the effects of the chloroform.

EXPERIMENT NO. 2.

March 15th, 1902.

Anæsthetized the dog. Commencing with chloroform, and after a few minutes, continuing with ether.

Shaved over the tendons and used three per cent carbolic solution for preparing the skin. Severed two tendons (tendo achilles) above the hoc joint and thereby permitted the leg to become flail-like.

The ends of the tendon did not separate more than one inch, most of which took place in the proximal end, or the end attached to the muscle. Used a mattress catgut suture (No. 2.) as in the first experiment, except that two were used instead of one. The second tendon was united like the first. The sheath was fairly isolated and sutured; after suturing the skin, applied a dressing, and immobilized with plaster of paris. In this experiment smaller needles were used, but they were cutting and were inclined to unnecessarily wound the tendon.

A sharp cutting needle should not be used in tendon suturing.

Post Mortem.

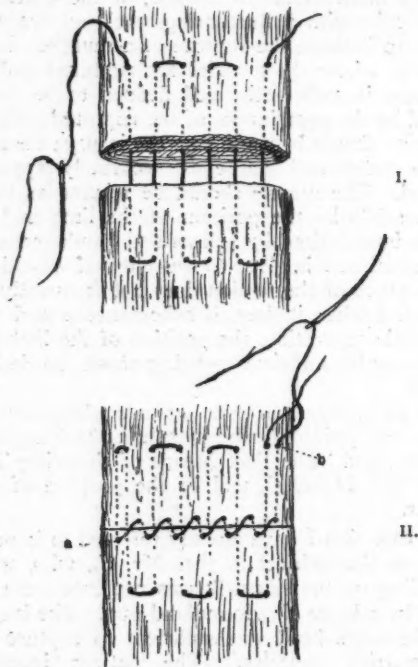
The post mortem of Experiment No. 2, was held on April 10th, twenty-six days being allowed for the healing.

So far as to the operation of March 15th, there was slight attenuation of the tendon of one-half of an inch; a thickening of same tendon towards muscle.

EXPERIMENT NO. 3.

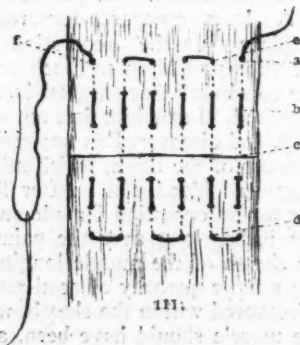
March 15th, 1902.

Severed the Gluteal muscle. There was but little retraction of its fibers. Separated the skin



MUSCLES.

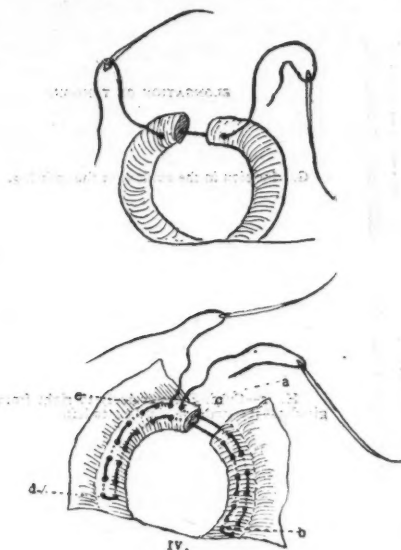
I. MATTRESS SUTURE. II. MATTRESS SUTURE. a—Continued for apposition of edges ending at b, and tied.



MUSCLES.

a—Beginning of suture. b—Suture exposed on surface of muscle c—Suture pierces end of muscle. d—Return of suture to c. e—Conclusion of suture.

from the surface of the muscle to permit the suturing of the muscle without including the skin. Three loops of No. 3 catgut, (I) mattress suture, were used which included one and one-half inches of each end of the muscle. After



IV.
SUTURING A LACERATED SPHINCTER ANI IN COMPLETE LACERATION OF THE PERINEUM.

a—The needle enters carrying suture to b and returned. c—Divided ends of muscle. d—Return of suture. e—end of suture. The end to be tied.

forming the last loop I made a closed approximation of the edges of wounded muscle by a continued suture. (II-a.)

Post Mortem.

The post mortem of April 5th, 1902, proved perfect union.

EXPERIMENT NO. 4.

March 16th, 1902.

"The peritendinous suture after an effort to do the double flap."

Following the usual necessary preparations I removed one inch of the longest tendon entering into the tendo achilles. Pierced the center of the proximal tendon about one-half inch from the end and splitting to within one-eighth of an inch of the end (E. a) with a knife, cut from the beginning of the incision (c) outward, thereby dividing one-half of the tendon and making a flap which would partly take the place of the part of the tendon cut away. In this instance the flap did not reach the distal extremity, and a flap from that end was necessary. A flap was begun from the side opposite to that which was made in the proximal tendon.

In splitting the distal extremity I permitted the knife to cut too far and pass through (E. b)

and thereby, in this small tendon, destroy all possibility of forming a flap that would easily reach the other (E. a). An effort was then made to approximate the flap from the proximal tendon (E. a) to the split distal tendon (E. b). It was accomplished with fine silk, but the traction was sufficient to completely separate the flap from its tendinous attachment (E. c).

There being now not sufficient desirable tendinous tissue to effect a union, the ends were stitched to a neighboring tendon, or rather to its peritendinous structure.

Observations:—A narrow knife blade should be used for splitting purposes.

There should be little or no traction on flaps and if the flaps do not easily approximate, relaxation should be brought about from the more remote part of the tendon.

The knife should not be withdrawn until the flap is completed, otherwise the incision might be lost.

The secondary observation, or the peritendinous suturing, may be an object lesson in this method of suturing, though the activity of the dog is prone to interfere with repair.

Post Mortem.

The post mortem was held on this dog on April 9th, 1902.

Found sloughing tissue over the hoc joint and at the lower end of the part operated upon. There was pus in the region of the joint. No separation in the tendinous structure to the feel.

Made a careful dissection of the tendon for the purpose of discerning the repaired ends. Found four or five silk sutures in tendon, but the repair had obliterated the points of suturing, and I could not discern the exact tendinous points that had undergone repair.

In the experiment, even though separation of tendon end had taken place, it did not materially interfere with peritendinous union.

I believe the tendons are prone to union, even under adverse circumstances, and the sheath, though poorly sutured, will readily conform itself to the tendon.

As to the adhesions interfering with the utility of the tendon, no definite conclusion could be reached by this experiment.



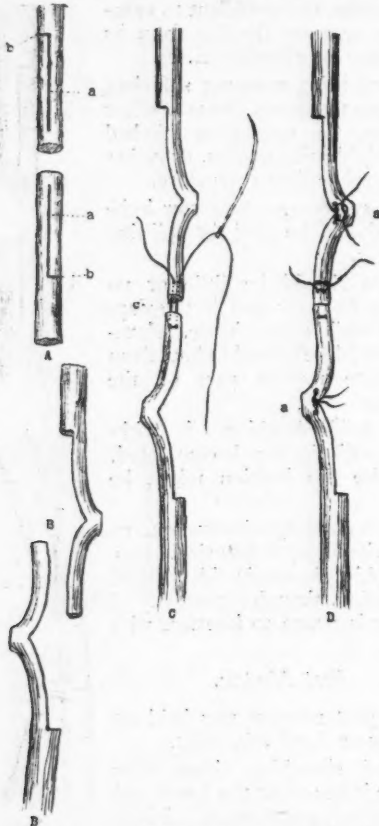
a—Flap made properly. b—Flap cut through by mistake and made useless. c—End of split and where flap is reflected from tendon.

F.
Peritendinous suture to in part rectify the error in E.

EXPERIMENT NO. 5.

March 19th, 1902.

Removed three-quarters of an inch of tendon and split each tendon about one-half of an inch to within one-eighth of an inch of the ends (A.



TENDONS.

a-a). Cut outward from the beginning of the slit in the proximal tendon (b) and inward in the distal (b'), thereby making two flaps; these were united with catgut (C. c). I placed a stitch transversely in each of the ends to prevent the flaps from tearing through (D. a. a.) if they experienced any traction. I believe this suture placed transversely and at the terminus of the incision made for flap purposes will greatly fortify against complete splitting.

This operation is only called for following trauma where a portion of a tendon is destroyed. When a tendon is contracted a sufficiently long incision should be made longitudinally in the tendon. This will permit a tendinous substance for repair as long as the split in the tendon (G. a).

Post Mortem.

The post mortem was held on the dog on April 9th, 1902.

To all outward appearances the tendon was thicker to the feel than the normal. The dog had been able to walk.

On removal of the skin there appeared to be a union of the tendon. At the end of twenty-

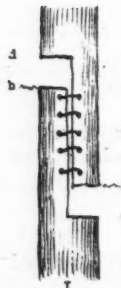


ELONGATION OF TENDON.

G. Incision in the tendon, or the splitting.



H. a—Cutting transversely to right from longitudinal incision, b—Cutting to left.



I. Tendon elongated and sutured; a and b separated from original positions c and d.

two days there seemed to be a strong and useful union between the divided ends.

There were no signs of chromicized catgut present. I was obliged to split the tendon longitudinally to find the points of repair, that manifested themselves by new tissue which did not possess the glistening white appearance of old tendon tissue. It had a darker and more watery appearance.

EXPERIMENT NO. 6.

March 20th, 1902.

"Operation on a flexor tendon with the object of shortening or elongating the tendon as condition might indicate."

I first split the tendon along the center one to two inches (G. a) and cut transversely through one-half of the tendon at opposite sides of each end (H. a. b.); one transverse incision being on the opposite side of the tendon to the other.

This procedure gives two flaps (H. e. f.) one on the proximal tendon and one on the distal of equal lengths and with cut surfaces apposed. These tendons were pulled apart, causing the tendons to slip one over the other and sutured, thereby elongating the tendon.

By cutting away the ends of the flaps (a. b.) they could be drawn towards (c. d.) thereby shortening the tendon.

I am inclined to think that if the plastic work was done under aseptic conditions and surroundings and with great care in the suturing of the sheath, that a good result might follow. It would be scarcely reasonable to conclude that after an operation on an active animal with the muscles in play, and without the necessary after-treatment, we should expect a satisfactory result. It is next to impossible to have an aseptic atmosphere, aseptic ligatures and aseptic assistants in handling operations on dogs.

EXPERIMENT NO. 7.

March 22nd, 1902.

In this experiment I severed one of the heel tendons; there was slight retraction of the proximal end. It was sutured with a small Hagadorn needle armed with catgut, and with a single loop of mattress suture, the ends were fairly well approximated. (J. K. L.).

This suture included about one-quarter of an inch of each end of the tendon, and was carried through the ends. The suture was only exposed at the beginning and at the point of return. There was another and a larger loop made in a similar manner to the first; and though it included more of the tendon was not carefully buried in the tendon structure. Its purpose was a relaxation that prevented traction on the sutured ends. A few hours later the animal tore off the plaster of paris and dressings.

Remarks:—A cutting needle should not be used in suturing tendons. Very small needles should be used. They should be round with no cutting edges. Large needles in small tendons will destroy most of their continuity. Care should be taken in carrying a curved needle through a tendon not to deviate from its original arc. The same care should be used in drawing through the suture; any considerable deviation from the course of puncture will tear the tendon.

Post Mortem.

The post mortem on this dog was held on April 10th, 1902.

It showed the distal fragment of cut tendon fairly well adhered to adjacent structures. The proximal end was quite firmly attached to the underlying tendinous structures. The sheath of cut tendon was continuous with sheath adhered

to. An interval of about five-eighths of an inch was between the cut ends with apparently no fibrous or tendinous structure between. Traction on this tendon had direct effect on its muscle.

EXPERIMENT NO. 8.

March 25th, 1902.

The experimental work of to-day upon two tendons that entered into the heel was more satisfactory than the preceding experiment.

The usual proceedings of anesthetizing, shaving the parts and antisepticizing the skin were carried out.

Then a longitudinal incision was made over the tendons; the sheath split and the tendons exposed.

The tendons were severed transversely and reunited with a mattress suture (J. K. L.); one with silk, No. 2; the other with catgut No. 2; using a small round needle with no cutting edges.

The suture was entered about one-quarter of an inch from the end of the proximal tendon, carried through its end, entering again at the end of the distal tendon and brought out one-quarter of an inch from the end. The needle was again entered at the side of the point of exit and carried back in a like manner to near the point of entrance, and there tied, completing the mattress suture.

While the mattress suture maintains relaxation of the segments it does not effect a perfect coaptation of the edges of the segments; one or two interrupted superficial sutures were used for this purpose, and a perfect coaptation was brought about.

The No. 2-catgut was rather unyieldy for the small round needle, and required considerable force to carry it through the tendon. It had more tendency to split the tendon than the silk. The round needle without the cutting edges merely punctured the tendon and in trying to make taut the suture, a greater force could be used without splitting the tendon than when a cutting needle had been used. The sheath was saturated en masse with other peritendinous structures.

Post Mortem.

The post mortem of this last experiment was held on April 3rd, allowing eight days for healing.

There was sloughing over site of operation. Sloughing also found two inches below the site of operation.

The tendons were exposed and a necrosed condition present.

In the eight days that intervened between the operation and the post mortem there was sloughing of both tendon and muscle, and though only a week had lapsed, there was found sloughing between the tendon and the muscle with no disposition to repair.

EXPERIMENT NO. 9.

April 3rd, 1902.

Incised tendons or several tendons comprising the tendo achilles. The structure cut through was at the junction of the tendon with the muscle and the surfaces were not altogether muscle or tendon. The tendinous portion was well surrounded with a fibrous sheath and retracted more than the muscle. After catching up a certain portion of the proximal end, mostly muscular fiber, I made an attempt to stitch it to the distal end. This had retracted within its sheath and was coaxed well out towards its companion end before the stitches were introduced.

The suturing was as follows:—The needle was introduced transversely in the proximal tendon one inch from the end, and again one and one-half inches from the end, so that a greater purchase might be had. The usual mattress suture was then used, except additional small loops were transversely used in the substance of the tendon before the ends were pierced. The sheath was sutured, the outer wound closed and the leg placed in splints.

Post Mortem.

The post mortem held on this dog on April 10th, showed muscular and tendinous structures in wound and almost the entire leg undergoing a rapid sloughing, with no tendency towards repair.

CONCLUSIONS.

In the suturing of divided tendons I have come to the conclusion that it is not proper to use a large needle in a small tendon. Neither do I think it expedient to pierce the ends of such tendons with needles, though the tendon is more accurately approximated at its wounded ends. I have not concluded, however, that these ends will not repair under such a circumstance, but I do know that the needles piercing the ends separate the tendinous fibers and destroy the continuity of the parts.

It is easier to suture with silk than with catgut. Catgut, sufficiently large to be of much utility, occupies a large portion of the tendon and is apt to injure a small tendon; it also requires a larger needle than the silk, yet silk will remain in the tendon for twenty to thirty days without dissolution, and unless in an aseptic case, is apt to be harmful as an irritant. Chromicized catgut, I think in the majority of cases, could take the place of silk; and yet I do not wish to put silk aside.

In the repair of tendons the ends should be permitted to fall together; in other words, the sutures for coaptation purposes should not be strained.

If the ends of a tendon are not easily approximated, relaxation sutures should be used, catching the tendon a half an inch or more from its ends, one suture being tied to the other.

I have suggested the suturing of the terminus of a split for flap purposes. This suture practically includes the end of the tendon and is to prevent the flaps splitting through. I think the suture may be of utility in plastic work.

In suturing of tendons no cutting needle should be used; only round needles, and they should be used with care. A needle should be carried through the puncture of tendon in the line of puncture as also should be the suture.

The mattress suture is the most useful in tendon work. In small tendons the suture should be carried transversely one-half inch from end: the suture only showing on the sides. In small tendon suturing the peritendinous structures may be united by a small suture and this will be sufficient to make a proper apposition to the tendon ends.

In experimental work on the animal it is almost impossible to prevent infection. In applying dressings and splints on a part to prevent motion too great a pressure is required, sloughing ensues, and a poor result follows.

A suture should always be smaller than the needle, otherwise the suture will lacerate an important part.

The needle should not be too much curved, as it is difficult to use such a needle in piercing the tendinous structure a sufficient distance to be of value.

In large tendons, I believe the chromicized catgut to be the proper suture, if the suture is sterile. However, it is easier to suture tendons with silk, and under aseptic conditions I believe the silk to be very efficient; but as to their comparative value I ask for further time to arrive at an intelligent conclusion.

I wish to state here that the destruction of a sheath of a tendon is followed by rapid repair.

Also that the repair of the tendinous substance is much more rapid than I had anticipated.

I believe that a tendon when properly sutured will have an excellent union in two weeks, and at the most in three weeks.

Gentlemen, in this paper I have given you the facts as I have found them; if the results of the various experiments are not satisfactory I do not know that it is quite my fault. It is better for us all to analyze and act upon facts as they are presented. I desire, however, to confess that this work has not been altogether satisfactory to myself, but it may be at least the starting point in good work hereafter upon this subject, and such work is sorely needed.

DISCUSSION ON DR. CROWLEY'S PAPER.

Dr. H. M. Sherman, of San Francisco:—The subject has been thoroughly illucidated, and I have only a few words to say in regard to the healing of tendinous tissue. The tendo Achillis is severed for club foot, and it will heal so that one can not tell where the original incision was. The tendo Achillis has a large amount of fibrous tissue and blood vessels for the healing process, and that is one reason why there is such perfect healing. In the more elaborate manipulations, Dr. Crowley has told us, there must be a good deal of handling of the tissues; and when you take it out of the sheath, you do not restore the circulation that was there, and you are entitled to anticipate a certain failure. The healing of certain tendons, where the blood supply is good, is easy, and where the blood supply is not good, it is harder to heal. It seems as if there were in some of these cases a meso tendon, and that it carries to the tendon the blood for healing purposes; but I can not state anything more than that supposition. Nervous diseases cause contraction and paralysis, and we have to shorten or lengthen the tendons. The shortening is a simple matter—to bring together the cut surfaces. We may remove a certain portion and leave an oblique surface. The greatest difficulty is in the lengthening of the tendon. In operating for transplanting the tendon, which has been done in late years in poliomyelitic paralysis, we wish to transfer a functioning section to one that is not functioning, and we have the proposition of suturing a living tendon to a tendon which is dead. The muscle that has lost its tone and is not functioning will not bear strain, and an operation which at first appears satisfactory will prove a failure, on account of stretching the muscle. Another point is the rest we have to give after the operation. The time limit which Dr. Crowley sets is too short. Three weeks is enough for plastic material, but not enough for tendinous material. We must give the patient rest for a long time—many months—during the time the tendinous material is being made. In suturing the muscles, the suture which has been recommended is not objectionable, but we do not suture muscles enough. In a compound fraction there may be laceration of the muscle and tendons, and after the patient recovers, and has a leg which will bear him well, we find some muscle which has no use. We should go further than put the two bones together, we should suture the lacerated muscles and tendons and integument.

Dr. T. W. Huntington, of San Francisco:—I have found the grafting of tendons of great utility in cases of ten to fifteen years standing. I have always found the procedure to be of great utility and advisable, more so in these cases than in any other. It is the distal extremity that we must look after when important tendons are severed. We can illustrate this in Dupuytren's contraction, a condition which up to recent date has been regarded as

irremediable. I have dealt with a half dozen of these cases very satisfactorily by opening the palm of the hand, dissecting away the fascia, and lengthening the tendons by the tendon-lengthening process. I do not expect in these cases to give absolutely perfect function, but to give a chance for renewal of function. Dealing with the tendons with the tendon graft is not so difficult as it might seem.

Dr. K. Pischel, of San Francisco:—I would like to suggest a suture I have used in my eye work with satisfaction. This suture is very thin and very strong and absorbable. The only drawback is that it is too short—length five to six inches—and I have had no difficulty in getting them. It is the tendon of the rat's tail. The preparation is simple. The tail is cut off at the root, the skin cut off, and many fine silky tendons are found. I put them in formalin one week, and afterwards carbolic acid three to five per cent. They will absorb in about a week, and if we put them in a weak solution of chromic acid they will last longer. I could not use the tendon direct from the formalin, and I was surprised to find the formation of small hard nodules, which kept the eye inflamed for two weeks. I spoke to Flexner about it, and he thought the difficulty came from the formalin. Since I put them in carbolic acid I have had no more trouble.

Dr. S. J. Hunkin of San Francisco:—In our work, if we put it in this way it would work out. There is quite a good deal of strain in the muscle, and if the suture is passed through the tendon, by the time you get to the second stage the nearest would be torn off. We should pass the suture through taking in one-sixth of the tendon, and pass the suture to the other side. After the first suture is put in the tendon is held together, and then the others may be put in.

Dr. Geo. F. Shields of San Francisco:—So long as you have tension on the suture there will be atrophy; so it must have rest. There seems to be an idea that you must pull it together with sutures. If you do that you use the suture for a purpose for which it is not intended. It is for coaptation. I understood Dr. Crowley to say that the tissue must be at rest. Wherever you put tension you get atrophy—and then a bad result.

Dr. E. G. Frisbie, of San Francisco: As the Dupuytren's contraction has been mentioned, I wish to remark I see no reason why we should lengthen the tendons, as the tendons are not involved. The contraction is extraneous to the tendons and the fibrous tissue. I think the operation of lengthening the tendons is unnecessary.

Dr. D. D. Crowley, of Oakland: I have the specimens from the dogs, where I had the tendons together, and placed them in formalin, to be brought here to-night, but they are not here. I can say, however, that the repair that had taken place in three weeks is remarkable. I will not speak as severely of Dr. Huntington's Dupuytren's contraction as Dr. Frisbie, for I believe sometimes

there is contraction of the tendons; but most of it is in the fascia, and the tissue surrounding the tendons and palmar fascia. I would also refer to the loops, of which I have been speaking, of the mattress suture. Some physicians mentioned the fact that it required no pressure on the suture. The more intimate sutures are for the close approximation, but the mattress suture is for relaxation and apposition purposes. The rat-tail suture has been tried for a long time. It was tried in San Francisco ten years ago, and it was found that the usual length of the tail was not sufficient. It was tried years ago in the East, but was not satisfactory. I would like to have more time in coming to conclusions as regards the silk and cat-gut.

PROCEEDINGS OF THE REGULAR MEETING OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY, HELD TUESDAY EVENING, DECEMBER 9, 1902.

The regular monthly meeting of the San Francisco County Medical Society was held in the parlor of the Y. M. C. A. on Tuesday evening, December 9th, the President, Dr. Louis Kengla, presiding.

After the regular order of business was disposed of, a paper on "The Diagnosis of Diseases of the Gall Bladder," was read by the author, Dr. W. W. Kerr, and a paper, "Report of a Case of Acute Phlegmonous Cholecystitis," was read by the author, Dr. L. W. Allen.

Dr. Kerr's paper was discussed by Dr. Ebricht, who said that the etiology of a case of gall stones led him to look for an antecedent case of typhoid fever.

Dr. J. Henry Barbat said there was difficulty in determining whether, in these cases, there was a movable kidney or gall stones. He had in some instances cut down for a case of floating kidney and had discovered gall stones, and *vice versa*.

Dr. Horton said he knew of no trouble in deep abdominal disorders so difficult of diagnosis as gall stones. X-ray examinations he had found to be not altogether satisfactory.

Dr. Rixford said gall stones may occur in all ages. He referred to one case where, after six weeks of excessive vomiting, an abscess was operated upon disclosing gall stones, each one as large as a small walnut.

Dr. Kerr explained that he had not undertaken to discuss the diseases of the gall ducts in his paper, as those of the bladder made enough material for one evening's consideration.

In discussing Dr. Allen's paper Dr. Rixford said that acute inflammation in the upper abdomen was a cue for phlegmon of the gall bladder.

Dr. MacMonagle said that Dr. Allen should be congratulated for raising the question as to the proper course to pursue when gangrenous attack is diagnosed—whether the bladder should be

drained or removed. Dr. MacMonagle said that, as a surgical proposition, if the bladder threatened infection of other parts it should come out. He said diagnosis and operation should be done earlier—get the gall bladder out before it be too late.

Dr. Allen said he had found gangrene, with the pulse at 96, when he had thought only to find appendicitis. He favored early operation.

Dr. Spencer addressed the Society as the retiring President. He said he desired to make a few comments, express a few hopes and offer a few suggestions in the way of action for the future. He said, among other things:

"One of the principal happenings during my incumbency was the amalgamation of the County with the State Society. This certainly is along lines that cannot be assailed. It will enable us to present a solid front in case we should desire to ask recognition at the hands of the Government. It may happen that one day we shall ask to have representation in the President's Cabinet.

"By certain of the Eastern societies men of other schools are being invited to lay aside their sectarianism and join in with the regular profession in discussion of scientific medical questions. There are men not of our school who should be asked to break down the sectarian barrier which alone keeps them from affiliation with us.

"My predecessor, Dr. Evans, favored very strongly a more rigorous system of milk inspection; but unfortunately our members did not take up the matter in a manner calculated to accomplish very much. The daily papers, however, have devoted considerable space in exploiting the question.

"Another matter particularly pleasing to me was the action of this Society in upholding the local Board of Health in its contention regarding the bubonic plague.

"The Society has acted carefully in the matter of watching applications for admission to practice. It has not hesitated to expose unworthy applicants.

"It is my opinion that this Society should have a fund set aside to provide suitable entertainment for eminent men of our profession, and other scientists, who may be visitors from other parts of the country. Recently the Climatological Society met in this city, and as the aims of that society are somewhat closely related to ours, it would have been entirely proper for this Society to have extended some sort of public recognition to them.

"In conclusion, I would say that an effort should be made to have men of distinction in our profession from other sections come before us, read papers and join in our discussions. I do not mean to underestimate the abilities of our own members, but I think much good might be

accomplished if we had members of other societies visit us from time to time, and that representatives from this Society should go to them, thus bringing the members of our profession into closer touch with each other."

President Kengla announced the death of Dr. James F. McCone in a few appropriate remarks, and upon motion of Dr. J. Henry Barbat, a committee of three was appointed to draw up a suitable minute, to be presented at the next regular meeting.

MEDICAL SOCIETY MEETINGS.

The thirteenth semi-annual meeting of the Southern California Medical Society was held on the 3d and 4th of this month at Pasadena. Sixty-six members were in attendance and quite a number of visitors. The meeting was devoted to the reading of scientific papers and discussions.

The meeting was called to order by President Dr. F. C. E. Mattison, who made an appropriate speech, after which an address of welcome was given by Dr. Norman Bridge, Pasadena. The programme carried out was:

"Pediatrics"—Dr. J. H. Seymour, chairman, Los Angeles, "Rachitis"; Dr. F. O. Yost, Los Angeles, "Hemorrhage in Children."

"Nervous and Mental Diseases"—Dr. H. G. Brainerd, chairman, Los Angeles, "Chorea."

"Surgery"—Dr. Claire W. Murphy, chairman, Los Angeles, "Asepsis in Surgery of the Neck and Goitre"; Dr. James H. McBride, Pasadena, "Localization of Cerebral Lesions for Surgical Purposes"; Dr. M. R. Toland, Pomona, "X-Rays in Surgery"; Dr. A. W. Morton, San Francisco, "Surgical Treatment of Gastric Hemorrhage."

"Gynecology"—Dr. Rose T. Bullard, chairman, Los Angeles, "Is Hysterectomy Justifiable in Cervical Cancer?" Dr. Carl Kurtz, Los Angeles, "Surgery of the Gall Bladder"; Dr. Louise Harvey Clarke, Riverside, "The Public School and the Growing Girl"; Dr. Hoell Tyler, Redlands, "Hydatidiform Mole."

"Ophthalmology"—Dr. Lewis S. Thorpe, chairman, Los Angeles; "Report of a Case of Diphtheric Conjunctivitis," second, "Report of a Severe Burn of Cornea from an Explosion of Acetylene Gas."

"Otology, Rhinology and Laryngology"—Dr. E. W. Fleming, chairman, Los Angeles, "Etiomoidal Disease"; Dr. Benjamin F. Church, Los Angeles, "Radical Operative Treatment of Chronic Suppurative Otitis Media."

"Skin and Genito-Urinary Diseases"—Dr. Charles Lockwood, chairman, Pasadena, "Cystitis in Women."

"Obstetrics"—Dr. J. C. Ferbert, chairman, Los Angeles; Dr. F. C. Shurtleff, Los Angeles, "Report of Death During Labor Due to Ventral Fixation."

Lunch was tendered the Society and to the Pasadena Society by the President, Dr. F. C. E. Mattison, at Alpine Tavern, on the second day. At 2 p. m. the session continued.

"Medicine and Therapeutics"—Dr. F. M. Pottenger, chairman, Los Angeles, "Statistical Investigation of Culture Products in Tuberculosis."

"Pathology"—Dr. Stanley P. Black, chairman, Pasadena, "Report of an Unusual Case of Syphilis."

"Practice of Medicine"—Dr. Chester L. Magee, chairman, Los Angeles, "Symposium on Bright's Disease"; Dr. Chester L. Magee, "Etiology and Pathology"; Dr. Joseph King, Los Angeles, "Symptomatology and Diagnosis"; Dr. J. C. King, Banning, "Treatment."

The officers of the Society are: Dr. F. C. E. Mattison, Pasadena, President; Dr. J. C. King, Banning, First Vice-President; Dr. F. W. Thomas, Claremont, Second Vice-President, and Dr. F. D. Bullard, Los Angeles, Secretary and Treasurer. The Committee on Arrangements for this meeting was Dr. Stanley P. Black, Dr. James H. McBride and Dr. Norman Bridge.

At the twelfth annual meeting of the California Northern District Medical Society held at Marysville on the 11th of November, the following officers were elected:

President, E. W. Hanlon, Marysville; First Vice-President, H. W. Taggart, Stockton; Second Vice-President, F. B. Sutliff, Sacramento; Third Vice-President, J. T. Harris, Gridley; Secretary, E. E. Stone, Napa; Treasurer, O. Stansbury, Chico.

Board of Censors—W. E. Briggs, Sacramento; W. E. Bates, Davisville; A. M. Henderson, Sacramento; B. J. Powell, Stockton, and John Fife, Red Bluff.

Committee of Arrangements—G. W. Stratton (Chairman), David Powell, E. W. Hanlon, J. H. Barr and T. P. Peery.

At the last regular meeting of the Fresno County Medical Society, the paper for the evening was written by Dr. Rosenberger of Sanger on the subject of "Physiognomy as an Index to Character and Disease."

The question of the local society joining the State Society in a body was made a special order of business for the next regular meeting, which will be held in January.

At the November meeting of the Salt Lake Medical Society, the subject up for discussion was typhoid fever. In his paper on the fever, Dr. A. C. Ewing, held that typhoid can be warded off by inoculation, the same as yellow fever and smallpox. He cited authorities to show that inoculation, while it may have a tendency to lessen the possibility of catching the disease, does not assuredly make one an immune.

He advocated, in effecting a cure, intestinal anticepsis—a germicide or anticeptic which would have the desired effect. Constant cleansing of the intestines would assist in the destruction of the bacilli.—*Salt Lake News*.

The Hawaiian Territorial Medical Society held its annual meeting Saturday evening and elected officers for the year as follows: Dr. H. C. Sloggett, president; Dr. W. L. Moore, vice president; Dr. J. T. McDonald, secretary; Dr. Taylor and Dr. C. B. Wood, executive committee, with other officers ex-officio members. A committee was appointed to make arrangements for an annual banquet of the association to be held soon. The active and honorary members of the association are as follows:

L. F. Alvarez, G. P. Andrews*, B. D. Bond, C. E. Camp, C. L. Cofer* (U. S. M. H. S.), C. B. Cooper, D. A. Carmichael*, C. A. Davis, F. R. Day, N. B. Emerson, C. L. Garvin, Colonel J. B. Girard* (U. S. A.), E. C. Goodhue, I. Haida, Geo. Herbert, A. G. Hodgins, F. W. Hodgins, Walter Hoffman, Carl Hofman, John Holland, H. W. Howard, F. H. Humphries, I. Katsuki, Dr. Li* (Chinese Consulate), W. H. Mays, W. L. Moore, Dunlop Moore*, (U. S. M. H. S.), I. Mori, H. V. Murray, R. P. Myers, J. G. McDonald, W. F. McConkey, R. J. McGettigan, J. S. McGrew*, R. Oliver (deceased), C. A. Peterson, J. S. B. Pratt, J. H. Raymond, E. C. Rhodes, C. G. Rodgers, B. F. Sandow, A. N. Sinclair, G. G. Smith* (U. S. A.), H. C. Sloggett, C. L. Stowe, W. E. Taylor, B. D. Taylor* (Major U. S. A.), L. S. Thompson, J. T. Wayson, E. C. Waterhouse, John Weddick, R. L. Wilson* (U. S. M. H. S.), C. B. Wood, Hubert Wood, W. W. Wood* (Major U. S. A.), L. A. Yule* (U. S. A.).

*Honorary members.

The society holds its meetings at 8 p. m. on the first Saturday of each month in the president's office.—*Honolulu Bulletin*, Nov. 3.

ANTI-TUBERCULOSIS LEAGUE.

With the organization of the Southern California Anti-tuberculosis League during the recent meeting of the Southern California Medical Association, a movement was formally inaugurated, the importance of which and the possibilities for good in Southern California can hardly be overestimated. At the meeting of the association at Idyllwild six months ago the matter was discussed and a committee on organization appointed. This committee reported at the recent meeting in Pasadena, the result of which was the formal organization of the league, with Dr. F. M. Pottenger of Los Angeles as president.

The purposes of the organization are stated to be, first, research, which will include the scientific investigation of all problems connected with the subject of tuberculosis; second, education. This branch of the work will be of the greatest importance, including, as it will, a systematic campaign for the education of the laity with regard to this much dreaded and much misunderstood disease. The aim will be to disseminate knowledge of the

disease, its prevention and the care of those afflicted with it, as well as to teach those thus afflicted to properly care for themselves. Third, practical work in the relief and care of indigent patients afflicted with tuberculosis; fourth, co-operation with other organizations of similar aim. The comprehensive aim of the league is shown by the provision for its membership, which will consist of active, honorary and life members. Any person may become an active member by the payment of a yearly fee of \$1, while any one may become a life member by the payment of \$25. Persons may be made honorary members by vote of the league, this being meant for those eminent as scientists or educators, whom it may be desirable to have connected with it from time to time. It will thus be seen that the proposed work of the league is of the widest possible scope, making it possible for any one interested in this great work to take an active part in furthering its aims. There will be a board of directors to meet quarterly, the regular annual meeting of the league to be on the Tuesday before the first Wednesday in June. The present board of officers will hold office until next June, when the permanent organization will be perfected.—*Los Angeles Herald*.

HEALTH OF ALLIED FORCES IN CHINA.

Questions Diplomatiques et Coloniales for July has a long article on the sanitary conditions of the allied troops during the Boxer troubles and the subsequent occupation of China by foreign forces. It very rarely occurs in any country that so many insanitary and unsavory conditions are combined together as in China, and this expedition has therefore been a pre-eminently good test of the sanitary regulations and precautions adopted by the armies of the different countries. With a not unnatural pride, the writer, who is a Frenchman, puts the French medical service in the first rank. The French had a force in the field of 17,000 men, whose health was attended to by a force of 76 surgeons and 390 attendants of various kinds (nurses, etc.). Without counting the resources of the French hospitals at Tientsin and Nagasaki, they had a further supply of 2,000 beds for ambulance or field hospital use, more than one-half of which were never used. Abundant medicines and drugs were supplied, at first from France, and later from Shanghai and Tokyo, all appliances for sterilization and disinfection were at hand in abundance and in good condition, and it was remarked that neither the English nor the Germans could show such good sanitary arrangements. As a consequence of this, the article goes on to claim that the health of the French troops was far better than that of any other of the allied forces. Typhoid fever and dysentery were almost nil among stationary

troops, though frequent amongst soldiers on the march who were obliged to drink water which had been merely boiled, not sterilized. An outbreak of typhoid, which took place on board the *Friant*, while anchored off Taku, was attributable to the same cause. The Germans had 23,000 men and 135 surgeons, two of whom were University professors sent out for special laboratory work. They suffered a good deal from dysentery, because they only sterilized the drinking water in the hospitals, and not in the camp, where the men had to be content with boiled water. They had neglected to bring with them some of the most valuable drugs for use against dysentery, and when they got them did not know how to use them. Their average of men in hospital was generally from 4 to 5 per cent of the force, whereas the French never reached to more than 2.7 per cent; nevertheless, they were well satisfied with the sanitary condition of their men. The American force was a very small one, but its medical arrangements were excellent, and in spite of the fact that the men drank only boiled water, they enjoyed an excellent average of good health. The British medical service, on the other hand, was out and away the worst of all. Some of the surgeons came from the Indian Medical Service, others from the Royal Army Medical Corps. There was no cohesion or unity of action between these two branches of the medical service; instruments, apparatus, fittings, all seemed to have been supplied from a lumber room of old stock. Every now and again some up-to-date instrument would make its appearance, but such luxuries were uniformly destined for the British soldiers, and not for their Indian confreres. Having made which disparaging remarks, the writer is eloquently silent as to the way in which the British troops of all shades stood the fatigues of their campaign in spite of their old-fashioned appliances. The Italian arrangements were good, those of the Russians excellent. The Russian medical corps came mostly from the Siberian army, and all its appliances and arrangements were excellently adapted to the needs of the Russian soldiers, who are not quite of the same type as the other European soldiers. The Japanese had some fifty surgeons, and six field hospitals, two at Peking and four at Tientsin. They were very proud of their medical arrangements, and boasted that all their instruments and appliances had been made in Japan. That might have been true, but all their arrangements had been copied from France, and though imitation is the sincerest form of flattery, there was a fly in the ointment in the fact that *les Japonais copierent en toutes choses leurs allies d'un jour*.

In addition to the medical equipment of the force, the writer attributes the high sanitary condition of the French troops to one or two subsidiary causes which are well worth mentioning.

1. To a general order issued by General Voy-

ron to the effect that "the Sanitary Service must have precedence of everything else, and all other branches of the service are to do their utmost to facilitate the work of the Sanitary Corps." "General Voyron," says the writer, "knew that the French soldier in health is ready for anything; assure him the integrity of his health, and everything else will come in due course of time."

2. A second contributory cause was the rapidity with which the sick and wounded were removed from the isolated stations and field ambulance hospitals to the more perfectly equipped stationary hospitals.

3. To the great care taken in recruiting to see that only suitable men were selected for the expedition, and to the vigilance of the permanent sanitary commission which was continually eliminating from the force all those who showed the slightest sign of inability to withstand the fatigues and hardships of the campaign.—*Yokohama Herald Mail Summary*, Oct. 17th.

VITAL STATISTICS.

Statistician Coffey of the San Francisco Board of Health made the following report for the month of November:

The total number of deaths during November was 579, equal to a death rate of 19.29 on each 1000 per annum, as against 564 for November, 1901, when the rate was 18.79. Births recorded last month numbered 500, equal to a rate of 16.65, as against 510 in November, 1901.

The deaths registered were distributed as follows: By sex, 352 males, 227 females; by race, 552 Caucasians, 24 Mongolians, 1 Japanese, 2 Africans; by nativities, Pacific Coast 208, other States 108, foreign 254, unascertained 8; 275 were single, 189 married, 90 widowed, 12 divorces, 13 unascertained; 79 were under 1 year of age, 26 were between 1 and 5 years, 46 from 5 to 20 years, 204 from 20 to 50 years, and 224 were 50 and past; 50 died in the City and County Hospital, 14 in the Almshouse, 18 in the emergency hospitals, homes and sanitariums, leaving 358 deaths to be distributed throughout the various sanitary districts in the city. The principal causes of death were: Diphtheria 14, scarlet fever 1, typhoid fever 14, septic diseases 7, cancer (all varieties) 35, pulmonary tuberculosis 69, other forms 8, senility (old age) 10, alcoholism 8, cirrhosis of liver 18, cerebral apoplexy 21, diseases of brain 17, of heart 69, of respiratory system (including pneumonia) 57, digestive system 39, Bright's disease 25. Accidental deaths: Asphyxia by gas 10, by falls, etc., 10, by street cars 6, by vehicles 4, other causes 20, total 50; homicides 3, suicide by firearms 1, hanging 1, gas 1, carbolic acid 9, chloroform 1, prussic acid 1, total 14.

The British Columbian Medical Society has abandoned the intention to appeal to the full court in a suit it instituted some months ago against an optical specialist. The society charged that the provisions of the Medical Act were being infringed by the optician in employing the title "Dr." without having received the Medical Society's license to practice.

Portland is to have its Health Department reorganized under a proposed new charter. The board is to consist of three regularly appointed physicians, who must have resided and practiced in the city for at least five years prior to their appointment. The appointing power rests with the Mayor.

MINUTES OF THE PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA

AT ITS THIRTY-SECOND ANNUAL SESSION

HELD IN

GOLDEN GATE HALL, 625 SUTTER STREET, SAN FRANCISCO, CALIFORNIA, APRIL, 1902.

(CONTINUED FROM PAGE 27, NOVEMBER JOURNAL.)

Third Afternoon Session, Thursday, April 17, 1902.

The meeting was called to order at 2:05.

Report of the Committee on Dermatology and Genito-Urinary diseases. (Continued.)

R. L. Rigdon read a paper on "The Localization of Disease of the Urinary Tract," which was discussed by John C. Spencer and referred to the Committee on Publication.

L. Bazet of San Francisco read a paper on "Intra-Vesical Depressor for Perineal Prostatectomy," which was referred to the Committee on Publication.

Report of the Committee on Pathology, Histology and Bacteriology:

The following papers, "Pulmonary Gangrene," by William Ophuls, of San Francisco; "Congenital Lymphangioma of Forearm and Hand, with Several Abnormalities; Autopsy Report," by Philip King Brown, of San Francisco; "Primary Epithelioma of the Cornea," by George T. Brady, of San Francisco, and "Fibrous Papilloma of the Anterior Urethra," by George L. Eaton, of San Francisco, were read by title and referred to the Committee on Publication.

George Adam of San Francisco read a paper entitled, "From Ether to the Physiologic Unit," which was referred to the Committee on Publication.

Report of the Committee on Dermatology and Genito-Urinary Diseases (continued):

M. Krotoszyner read a paper on "Spinal Anaesthesia with Tropo-Cocaine in Genito-Urinary Surgery," which was referred to the Committee on Publication.

The Board of Censors reported favorably on the following fourteen applicants: C. C. Baker, P. C. Campbell, Z. Levin, L. J. Belknap, J. T. Stephen, S. I. Shuey, G. M. Barrett, P. S. Nusbaumer, G. L. Eaton, M. Mason, J. Stile, F. C. Keck, J. P. Le Fever, A. P. Lewis.

The Secretary, having cast the ballot for the entire number, they were declared elected by the President.

The Nominating Committee, appointed at a previous session by the President, then made a report, but on motion of W. W. Kerr, duly seconded, the report of this Committee was laid on the table.

The Secretary of the Board of Examiners read his report, which was referred to the Executive Committee, and he was given a vote of thanks for his long service on the Board. The Treasurer read his report, which was referred to the Executive Committee. The Secretary read his report, which was referred to the Executive Committee.

On vote of the Society, Santa Barbara was selected as the place of meeting for 1903.

NOMINATION AND ELECTION OF OFFICERS.

For President, G. W. Davis, of San Francisco, was placed in nomination by W. S. Thorne; F. B. Carpenter, of San Francisco, was placed in nomination by W. W. Kerr.

It was then moved and seconded that the Society go into executive session, which motion carried. On ballot F. B. Carpenter received 81 votes and was declared elected President for the ensuing year. On

motion, duly seconded and carried, the election was made unanimous.

For First Vice-President, C. C. Wadsworth, of San Francisco, was placed in nomination by G. F. Shields; D. A. Hodghead, of San Francisco, was placed in nomination by F. L. Adams.

C. C. Wadsworth received 85 votes and was declared elected and, on motion, duly made and seconded, his election was made unanimous.

For Second Vice-President, H. G. Brainerd, of Los Angeles, was placed in nomination by E. E. Kelly; D. A. Hodghead, of San Francisco, was placed in nomination by H. Bert Ellis.

On vote by ballot by the Society, D. A. Hodghead was duly elected and, on motion, his election was made unanimous.

For Secretary, the incumbent, George H. Evans, of San Francisco, was placed in nomination by J. Henry Barbat. It was then moved, seconded and carried that the nominations close, and the Assistant Secretary cast the ballot, which was done, and the incumbent declared elected for the ensuing year.

For First and Second Assistant Secretaries, Z. T. Malaby and E. M. Bixby, of San Francisco, were respectively nominated, and it was moved, seconded and carried that the Secretary cast the ballot, which was done and they were declared elected.

For Treasurer, E. E. Kelly, of San Francisco, was nominated. The nominations were ordered closed. The Secretary cast the ballot, and he was declared elected.

For Board of Examiners, Dudley Tait, of San Francisco; David Powell, of Marysville; D. E. Osborne, of St. Helena; W. S. Thorne, of San Francisco, and R. L. Wilbur, of Palo Alto, were nominated. It was moved, seconded and carried that the nominations close and the Secretary cast the ballot, and the above mentioned members were declared elected.

Alternates to the Board of Examiners, J. M. Kirk and C. J. Burnham, of San Francisco, and S. J. Buteau of Oakland were nominated. The nominations were ordered closed and the Secretary cast the ballot and they were declared elected.

Board of Trustees, C. W. Nutting, of Etna Mills; Thomas Ross, of Sacramento; F. L. Adams, of Oakland; Philip Mills Jones and A. W. Morton, of San Francisco; G. A. Hare, of Fresno; G. L. Cole, of Los Angeles, and W. S. Fowler, of Bakersfield, were placed in nomination from the different Congressional Districts. C. G. Kenyon and J. Rosenstirn, of San Francisco, and William LeMoyné Wills, of Los Angeles, were nominated as Trustees at large. It was then moved, seconded and carried that the nominations close. The Secretary cast the ballot, and the eleven above named members were declared elected.

The Executive Committee made the following report, and it was moved, seconded and carried, that it be taken up section by section.

Section 1. In the matter of the report of C. G. Kenyon, Chairman of the Committee on Revision of Constitution and By-Laws, your Executive Committee recommends the adoption of the report, with the

slight modifications suggested by your committee. (Adopted.)

Sec. 2. In the matter of the resolutions introduced by G. A. Hare, it is the sense of the Executive Committee that this Society should not recommend the teaching of any special therapy. (Adopted.)

Sec. 3. In the matter of the bill of W. B. Kallmyer, for attorney fees, the Executive Committee recommends that it be paid. (Adopted.)

Sec. 4. In the matter of the communications and resolutions from the San Francisco County Medical Society, conveying a vote of confidence in the "Old Board of Health" of San Francisco, the Executive Committee concurs in the vote of confidence, and recommends that this Society take action in the matter by passing a vote of confidence in the board known as the "Old Board of Health."

This section was adopted and the following resolutions were read by G. A. Hare, of Fresno, and were adopted by the Society and ordered spread on the minutes, a copy to be sent to the Mayor of San Francisco, the Department of Public Health, the State Board of Health, the leading weekly medical journals throughout the United States and to the Surgeon-General of the United States Marine Hospital Service:

WHEREAS, The Mayor of the city of San Francisco has seen fit to remove the so-called "old" Board of Health; and

WHEREAS, The Chief Executive of the city has stated that he has determined, after prolonged personal investigation, that bubonic plague has never existed in San Francisco; and

WHEREAS, The position is absolutely unsupported by any competent, unprejudiced physician who has made personal examination of suspects or alleged cases of plague before or after death, or who has examined the bacteriologic evidence presented; and is further in direct conflict with the findings of the Federal Government experts and special commission; therefore be it

Resolved, That the Medical Society of the State of California emphatically condemns this action on the part of the Mayor of San Francisco, and at the same time endorses the position always maintained by the old Board of Health in its sanitary defense of the people of San Francisco and of the country at large.

Sec. 5. The report and accounts of the Secretary of this Society have been examined and found to be correct. The report and accounts of the Treasurer have been examined and found to be correct. (Adopted.)

Sec. 6. The Executive Committee recommends that the sum of \$100 be paid to the Chairman of the Publication Committee for services rendered in publishing the transactions for 1901. (Adopted.)

Sec. 7. The Executive Committee recommends that the publication of the annual volume of Transactions be discontinued and that the matter of publications be referred to the new Board of Trustees. (Adopted.)

Sec. 8. In the matter of the bills presented by the Committee on Revision of the Constitution and By-Laws, we recommend they be paid. (Adopted.)

Sec. 9. The report of the Secretary of the Board of Examiners has been examined by your committee, in so far as that was possible, and was found to be correct. Owing to the recent changes in the management of the Board of Medical Examiners, the Secretary of the Board suggests that his books be expeted, up to August 1, 1901, but your committee believes this would be a useless expenditure. (Adopted.)

Sec. 10. In the matter of the recommendations of the President, the Publication Committee and the

Secretary, we recommend that these matters be referred to the Board of Trustees. (Adopted.)

H. BERT ELLIS.
WM. LeM. WILLS,
PHILIP MILLS JONES.

Report of the Committee on State Medicine, Medical Education and Hygiene:

W. F. McNutt, of San Francisco, Chairman, who read a paper on "Medical Education," which was referred to the Publication Committee, and the discussion was opened by Henry Gibbons Jr., of San Francisco. H. J. Crumpton, of Sausalito, presented a volunteer paper which was read by title and referred to the same committee. W. F. McNutt's paper was further discussed by E. E. Kelly, E. M. Paterson, D'Arcy Power, G. Adam and G. A. Hare.

Attention was then called to the fact that delegates to the American Medical Association meeting had not been elected. The President then referred back to the head of new business. H. Bert Ellis, of Los Angeles, was placed in nomination as delegate, and H. M. Sherman, of San Francisco, as alternate to the American Medical Association meeting. It was then moved, seconded and carried that the nominations close, and the Secretary cast the ballot, and they were declared elected.

It was moved, seconded and carried that the dues of the Assistant Secretaries be paid by the Society.

Report of the Committee on Dermatology and Genito-Urinary Diseases (continued): The paper by Geo. Goodfellow, of San Francisco, "Pernieal Prostactectomy," and one by D. W. Montgomery, of San Francisco, "Pityriasis Rosea," were read by title and referred to the Committee on Publication.

Resolutions by L. L. Dorr, of San Francisco, in regard to vaccine and the establishment of a vaccine virus farm were read, and on motion referred to the Board of Trustees.

The report of the Committee on Necrology was read by title and referred to the Committee on Publication.

The President-elect, F. B. Carpenter, was then escorted to the rostrum by Past-President C. G. Kenyon and introduced to the assembly by the retiring President. After making a few felicitous remarks, the minutes were ordered read, and were approved as read, and the Society adjourned at 6:30 p. m.

GEORGE H. EVANS, Secretary.

NEWS ITEMS OF INTEREST TO THE PROFESSION.

The Portland, Oregon, health authorities are waging vigorous warfare against the dairymen, it having been discovered that much of the milk supply of the city comes from cows afflicted with tuberculosis. In this connection the fact comes to light that Oregon has no State Board of Health.

The colored man, graduated from Cooper's in the last class, has the distinction of being the first one of his race who has received the degree from a California college.

Smallpox is occasioning considerable work for the health authorities of Sacramento, Hanford, Visalia, Tulare and in Sutter county.

Since last March it is estimated by the Marine Hospital Service that over 75,000 cases of cholera have occurred in the Philippines, with a mortality of 75 per cent. Cholera is also epidemic in Japan, China and Egypt.

An emergency hospital is about to be built at Redlands which, according to the Los Angeles Times, will be the first hospital that town has ever had.

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

F. B. CARPENTER, President,
590 Sutter St., San Francisco.

GEORGE H. EVANS, Secretary,
807 Sutter St., San Francisco.

ELMER E. KELLY, Treasurer.
771 Sutter st., San Francisco.

Next Annual Meeting will be held at Santa Barbara on the third Tuesday in April.

COMMITTEES FOR 1902-1903.

(First named being chairman.)

ORATION IN MEDICINE WM. WATT KERR, San Francisco
ORATION IN SURGERY GRANVILLE MACGOWAN, Los Angeles

ARRANGEMENTS.

PHILIP KING BROWN, San Francisco; C. M. RICHTER, San Francisco; W. LE MOYNE WILLS, Los Angeles; GEO. COLE, Los Angeles; WALTER LINDLEY, Los Angeles.

AUXILIARY COMMITTEE OF ARRANGEMENTS.

W. H. FLINT, Santa Barbara; C. E. VAUGHAN, Santa Barbara; C. S. STODDARD, Santa Barbara; R. F. WINCHESTER, Santa Barbara; W. B. CUNNANS, Santa Barbara.

PUBLICATION.

PHILIP MILLS JONES, San Francisco; GEORGE H. EVANS, San Francisco; HENRY GIBBONS, JR., San Francisco; DUDLEY TAIT, San Francisco; CHAS. D. McGETTIGAN, San Francisco.

AUDITING.

C. G. KENYON, San Francisco; E. L. WEMPLE, San Francisco; E. G. FRISBIE, San Francisco.

MEMORIAL.

G. W. DAVIS, San Francisco; ROBERT F. ROONEY, Auburn; CHAS. G. LEVISON, San Francisco.

MEDICINE AND THERAPEUTICS.

NORMAN BRIDGE, Los Angeles; SAMUEL H. BUTEAU, Oakland; WM. FITCH CHENEY, San Francisco; A. M. GARDNER, Belmont; W. J. G. DAWSON, St. Helena.

SURGERY AND ANATOMY.

STANLEY STILLMAN, San Francisco; JULIUS ROSENSTIRN, San Francisco; W. LE MOYNE WILLS, Los Angeles; G. A. WHITE, Sacramento; D. D. CROWLEY, Oakland.

OBSTETRICS.

D. A. HODGHEAD, San Francisco; EDWARD N. EWER, Oakland; GEO. L. COLE, Los Angeles; GEO. A. HARE, Fresno; W. N. SHERMAN, Merced.

GYNECOLOGY.

B. McMONAGLE, San Francisco; WALTER LINDLEY, Los Angeles; E. E. KELLY, San Francisco; A. LILIENCRANTZ, Oakland; W. A. BRIGGS, Sacramento.

PEDIATRICS.

GEORGE H. EVANS, San Francisco; W. A. EDWARDS, Coronado; C. W. NUTTING, Etna Mills; FRED G. BURNS, San Francisco; E. W. TWITCHELL, Sacramento.

EYE.

H. BERT ELLIS, Los Angeles; VARD H. HULEN, San Francisco; J. A. BLACK, San Francisco; GEO. C. PARDEE, Oakland; B. J. POWELL, Stockton.

EAR, NOSE AND THROAT.

H. L. WAGNER, San Francisco; W. F. SOUTHARD, San Francisco; WM. ELLERY BRIGGS, Sacramento; DENNIS J. ARNOLD, San Francisco; W. S. FOWLER, Bakersfield.

GENITO-URINARY.

LOUIS BAZET, San Francisco; R. L. RIGDON, San Francisco; JNO. C. SPENCER, San Francisco; A. P. WOODWARD, San Francisco; M. KROTOSZYNER, San Francisco.

CUTANEOUS DISEASES.

D. W. MONTGOMERY, San Francisco; HOWARD MORROW, San Francisco; MARTIN REGENSBURGER, San Francisco.

NERVOUS AND MENTAL.

H. G. BRAINERD, Los Angeles; A. E. OSBORNE, Santa Clara; H. E. SANDERSON, Stockton; A. W. HAISHOLT, Stockton; LEO NEWMARK, San Francisco.

HYGIENE, SANITATION AND CLIMATOLOGY.

P. K. BROWN, San Francisco; H. A. L. RYFKOGEL, San Francisco; JNO. M. WILLIAMSON, San Francisco; MARY E. RITTER, Berkeley; M. GARDNER, San Francisco.

PATHOLOGY AND BACTERIOLOGY.

WM. OPHÜLS, San Francisco; STANLEY P. BLACK, Los Angeles; MAURICE W. BROWN, Alameda; HERBERT MOFFATT, San Francisco; G. E. EBRIGHT, San Francisco.

CHEMISTRY AND PHYSIOLOGY.

RAY L. WILBUR, Stanford University; CARL R. KRONE, Oakland.

MEDICAL LEGISLATION AND EDUCATION.

HENRY GIBBONS, JR., San Francisco; W. S. THORNE, San Francisco; JAS. H. PARKINSON, Sacramento.

SCIENTIFIC PROGRAM.

J. HENRY BARBAT, San Francisco; P. M. JONES, San Francisco; DUDLEY TAIT, San Francisco; W. F. B. WAKEFIELD, Oakland; WALLACE I. TERRY, San Francisco.

NOTICE TO ALL MEMBERS

Under Art. VI, Sec. 6, of the new Constitution and By-Laws, all members intending to present papers at the next meeting of the State Society, April, 1903, MUST send their papers to the Chairman of the Committee on Scientific Program ONE MONTH BEFORE THE DATE OF THE MEETING. The papers must be examined by this committee and abstracted for the program, which program must be made up at least fifteen days before the meeting. At the last meeting of the Society it was voted to strictly adhere to this requirement, so that if your paper is not sent in by the fifteenth of March, it can not be presented to the State Society at the meeting in April.

SEND YOUR PAPERS TO DR. J. HENRY BARBAT, Chairman, 590 Sutter Street, San Francisco.